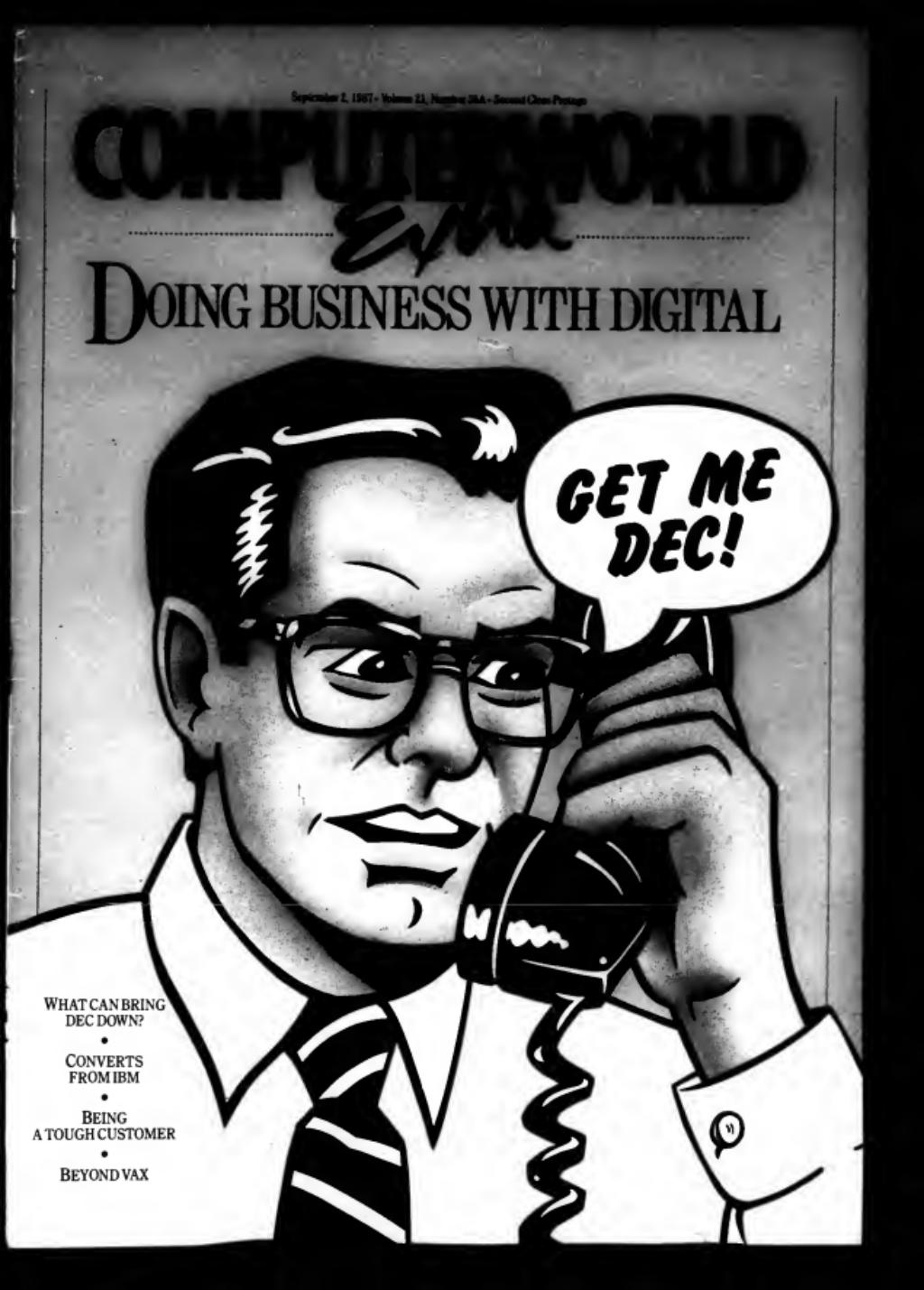


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# DOING BUSINESS WITH DIGITAL

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COVER ILLUSTRATION: HAL BROOKS

COMPUTERWORLD

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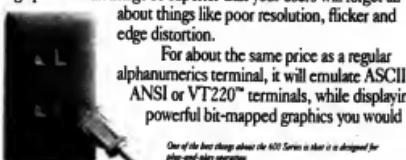
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## ► COMMENT ◀

## WHOSE YEAR IS IT, ANYWAY?

BY AMY WOHL

year ago, *Computerworld Extra* proclaimed 1986 the "Year of DEC." The label turned out to be appropriate, based on Digital Equipment Corp.'s 38% increase in profits in a stamp-ridden year for the computer industry. Given an 84% increase in profits for this fiscal year, an argument could be made that 1987 is yet another "Year of DEC."

But for IBM, 1987 is the "Year to Get DEC." Cracks can be found in DEC's one-architecture strategy — weaknesses that IBM can exploit.

Still, DEC pushes ahead. Wherever you look, another customer of previously pure vendor leanings has just converted to a VAX. IBM has been forced to mention DEC often in press and consultant briefings. New products are referred to (often with more hope than success) as "VAX killers."

Only a few years ago, it was possible for a consultant to sum up DEC's marketing prowess as "in a paper bag" — in other words, what they couldn't market their way out of — and get a knowing laugh. Nowadays, DEC's aggressive, knowledgeable marketing of mid-range systems and departmental processors has become the game to match.

The turning point may have been Decworld '86. For a week, Boston became a world filled with DEC equipment, DEC salesmen, DEC software and 27,000 DEC customers. The effect on customers was astounding. Suddenly, it was respectable to talk about "multivendor solutions" (especially if the multiple vendors were IBM and DEC), "optimizing systems at every level" (read: DEC makes better mid-range solutions for my application) and "departmental-level choice" (that is, my MIS director may be sold on IBM, but I'm not).

Today, DEC is no longer an outside-the-mainstream decision. It has become an entirely respectable alternative to other vendors' mid-range processors or departmental systems, especially to products from IBM.

DEC has a fully realized product line, designed around a single operating system, with a rich set of tools and office software plus a huge variety of third-party applications software. The single operating system pleases both soft-



CHUCK DEMARCO

ware vendors, which get to do less work and get more customers, and software users, who get a larger selection of packages and more flexibility in configuring and expanding systems.

#### Building blocks of a reputation

But there is no magic here. Other minicomputer vendors offer operating systems across a broad range of products, sell nice office software and import lots of third-party vendors. So why is DEC clearly outstanding in customers' eyes?

Size is obviously a reason. DEC is reengineering by the No. 2 or No. 3 computer vendor. Also, the structure is in place: All those pin-striped-suited salesmen (many of them former IBMers), all that systems engineering know-how and all that good, reliable service. Customers feel there is little or no risk here.

There is even, occasionally, a hint of the arrogant computer customers like their vendors to display. You *must* be a big-time vendor if you can portray delivery delays as "our temporary inability to meet an unanticipated strong customer demand," as one client heard recently from his DEC representative.

Of course, IBM is scarcely talking DEC's success lying down. IBM has sounded a loud, clear call to both its customers and to industry observers that if Digital has it now, IBM had it a long time ago. IBM has rounded up its architectural experts to point out the fallacies of thinking that a single operating system can do everything (it probably can't) or that DEC can actually deliver everything a big customer needs to do computing (it definitely can't) — and DEC's willingness to front-end IBM mainframes and attach IBM Personal Computers gracefully, if not gratefully, shows DEC knows all about this.

Meanwhile, IBM is counting on three strategies to keep customers happy and guide straying sheep back to the fold:

- The 9370, which is a highly attractive solution to the mid-range processor dilemma for IBM shops that want to write their own solutions or bring down VM-based (and perhaps occasionally MVS-based) solutions to smaller systems and applications. With the advent of 9370-based software, which will take some time, this product could be very competitive in IBM vs. DEC situations.

- Openly discussing a follow-on to its System/36 and 38. This mid-range solution, admittedly coming no sooner than 1988, would extend IBM's popular System/36 and 38 onto a single architecture, able to run all existing System/32, 34, 36 and 38 software as well as new software written especially for its greater capabilities.

- Like the System/38, the follow-on would be based on IBM's Future Systems architecture and, it is hoped, could vastly increase IBM's market potential among existing System/32, 34, 36 and 38 customers (of which there are now about 240,000). The follow-on would have to appeal to office users and software developers to openly compete with DEC. IBM believes, of course, that it will do just that.

IBM's Systems Application Architecture (SAA) was designed to permit IBM customers to use a single interface across software running on a variety of IBM architectures, specifically 370s, 3080s, 3090s, the 4300 series, 9370s, Personal System/2 and the anticipated follow-on to the System/36.

SAA will also ease the task of third-party software developers that would like their products to run across the various IBM operating environments. However, the rules for doing so are just being published, and the software to exploit this strategy is probably a few years away.

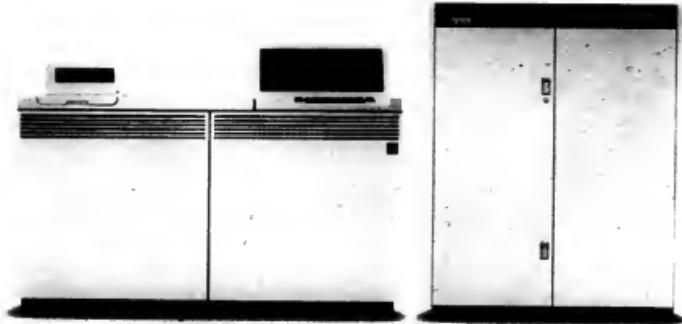
#### Battle not easily fought

Customers who want to continue to do business with IBM can find reassurance in these announcements, but customers who have moved to DEC will probably wait for more software before considering a return. This window will give DEC time and room to work on even spiffier hardware, better price/performance and even more software.

DEC, pursuing a path of consistent aggression, is leaving nothing to chance. Next week at Decworld '87 in Boston, for example, the firm

*Continued on page 7*

Wohl is president of Wohl Associates, located in Bala Cynwyd, Pa., and editor of "The Wohl Report on End-User Computing" newsletter.



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ter users who are presently evaluating software vendors, we'd like to point out a few things that didn't happen overnight.

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Extra

## WHOSE YEAR?

CONTINUED FROM PAGE 5

will unveil its Microvax 3000 series, the CMOS-based third generation of the phenomenally successful Microvax II. This powerful new workstation is likely to have a heavy impact on the minicomputer market competition, most particularly at the low end of IBM's 9370 line.

The battle for customers' hearts (and minds), however, will not be easily fought or easily won.

### Who pays for technical advice?

IBM, of course, is pumping up the Big Blue Marketing Machine. If DEC is holding its marketing-army salesmen, IBM is increasing its sales force. A major battle may center on who pays for prestige and post-sale technical advice. IBM gives away more and more free training (including odd-winters of the pre-university days), while DEC is trying to get paid for more of its consulting expertise. Customers will no doubt point out to DEC that IBM's policies represent big dollar differentials; DEC can, of course, move to a more generous policy if it needs to.

Where in all this discussion, are the old-style DEC customers? Do scientists, engineers and computer techies feel left out? Do blue pin-striped suits make them nervous? Fear not — DEC has not deserted its old friends. A trip to any scientifically oriented show will turn up dozens of DEC solutions to traditional problems.

DEC is still a strong force in the Unix community and a popular university computer sciences department solution, although IBM is giving it a better run for the money here these days.

Can anyone stay atop the pedestal forever? Probably not. DEC will eventually

## WHAT IS DEC'S REAL PRESENCE IN IBM ACCOUNTS?

Base: 432 IBM mainframe accounts

	DEC	IBM
Departmental systems	14.3%	30.3%
Personal computers	0.8%	25.4%
Local-area networks	3%	23.7%
File servers	0.8%	6.4%
Integrated systems	1.8%	0.8%

Based on responses in the pharmaceutical, insurance, government, Federal, state and local, manufacturing and medical markets. Data of surveys first and second quarters of 1987.

INFORMATION PROVIDED BY THE SEERIA GROUP CT CHART

do something wrong, however minor, and fall from its state of grace into some more realistic and stable positionings as a major vendor of alternative positioning.

This fall would be to IBM's benefit, especially if DEC's stumbles tie coincides with the arrival of the marketplace of 9370 software or the System/36 and 38 follow-on hardware and software. Or it could simply mean that a more sophisticated market will make more sophisticated judgments and discover that one can be the best at everything forever.

A healthy market is one in which several robust players good each other into better product offerings at more competitive prices. If this outcome results from DEC's success and IBM's replies, there will be much to applaud as this really does become the year of the customer.

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## ASK DEC

## QUESTION MARKS FROM USERS

The following questions were solicited from users by *Computerworld Extra* and conveyed to DEC for responses.

**In the area of networking, DEC is clearly the industry leader and has superior products in a very difficult technological discipline, and DEC customers embrace the technology like a religion. But in the areas of on-line transaction processing (OLTP) and high-performance data base systems, DEC does not have strong offerings.**

**Why hasn't DEC introduced the same quality strategic products in OLTP and high-performance data base systems as it has in networking? Either the will or still isn't there. What is missing?**

STANLEY ROSE  
VICE-PRESIDENT

DISTRIBUTED PROCESSING TECHNICAL SUPPORT  
BANKERS TRUST CO., NEW YORK

Naturally, Digital recognizes that the time is right for becoming a major player in the commercial computing environment, and we are devoting considerable resources to developing high-performance transaction processing and data base systems as well as support capabilities.

Although Digital is working aggressively on these high-performance deliverables, we are not ready at this time to fully reveal our strategies in these key areas. However, nondisclosure presentations will shortly be made available to selected accounts. Customers can anticipate a significant announcement later this fall.

BOB GLOROSO  
VICE-PRESIDENT

HIGH-PERFORMANCE SYSTEMS

**Is DEC any longer interested in pursuing the small-business time-sharing market? The pricing on nonnetworked, low-end Microvax configurations is now in the mid-\$20,000 range, while entry-level Unix-based systems sell for half that price. Does this mismatched pricing mean that DEC is no longer interested in this market?**

JEFF KILLEEN  
VICE-PRESIDENT

INFORMATION DESIGN & MANAGEMENT CO.  
HOPEDALE, MASS.

Digital continues to be committed to supporting the multiuser computing needs of small businesses with powerful, competitively priced systems. The mid-\$20,000 price mentioned is inaccurate. Digital's Microvax family of small

computer systems embraces a wide range of prices and user-support requirements.

Prices for the four-user Microvax 2000 begin at least \$10,000, making the entry-level Microvax offering a highly competitive, aggressively priced system powerful enough to handle the management needs of many small businesses. Furthermore, the value of all Digital systems is enhanced at no extra cost by the new one-year, on-site hardware warranty.

While the question specifies "non-networked" configurations, the potential of networking and software compatibility with larger systems should not be ignored or underestimated, even by small businesses that are primarily concerned with the needs of today.

To facilitate future growth and changing requirements, Digital's Microvax and MicroPDP-11 systems offer networking capabilities unequalled elsewhere in either scope or functionality, and the software compatibility of the VMS and MicroVMS operating systems extends uniformly across the entire VAX family, from the Microvax 2000 through the VAX 8000 series.

JACK MACKENZIE  
VICE-PRESIDENT  
CHANNEL MARKETING

**What are the plans and timetable for bringing the Ada language on par with other languages in relation to DEC's layered products? There is great demand from the government to use Ada on Department of Defense contracts, but there is little from DEC that incorporates Ada into its systems.**

JUNE BAKER  
EXECUTIVE STAFF MEMBER

COMPUTER SCIENCES CORP., FALLS CHURCH, VA

VAX Ada is very much on par with other languages from Digital. VAX Ada supports the complete set of VAX language standards, such as the Common Calling Standard and the VAX Debugger.

Furthermore, VAX Ada is completely integrated with Digital's VAX/VMS programming support environment (that is, the VAX Language Sensitive Editor, the Source Code Analyzer, the Code Management System and the DEC/Test Manager), as are other Digital language products, such as VAX Fortran and VAX Cobol.

From a software perspective, the VAX Ada product is an integral and integrated software product in the VAX/VMS software development environment.

BILL REFFNER  
VICE-PRESIDENT  
SYSTEMS SOFTWARE GROUP

**When is DEC going to allow low-end clusters of Microvaxes and other workstations to connect to a traditional Vaxcluster?**

EMILY KITCHEN  
MANAGER OF TECHNICAL SERVICES  
FOR RESEARCH AND DEVELOPMENT  
A. H. ROBBINS & CO., RICHMOND, VA

Digital has heard this request from many customers and recognizes that this configuration would provide an excellent environment for both software development and software production systems. Digital is, therefore, aggressively working to meet its customers' needs in this area.

BILL REFFNER

**From a Digital point of view, what effect will networking standards have in the industry in the next three to five years? What role will IBM's Systems Network Architecture [SNA] play?**

BILL BRINDLEY  
DIRECTOR OF COMPUTER SYSTEMS  
HQ NAVAL SECURITY GROUP COMMAND, STERLING, VA

International standards, as they become more widely adopted and implemented by many vendors, will make it easier for users to operate and manage networks in a multivendor environment. As connections become standardized, the cost of networking will further decrease, making multivendor networks more affordable.

Ultimately, Digital believes that the overall network marketplace will expand due to the proliferation of cost-effective, reliable, worldwide multivendor networking capabilities.

As the need for business communications increases and the trend toward international standards continues, users will become more aggressive in their demands for various levels of interoperability from all vendors. Digital has already committed to fully implementing approved international standards into its networking architecture.

Naturally, SNA, like other vendors' proprietary architectures, will have an important role in providing its large installed base with a migration path to Open Systems Interconnect.

BILL JOHNSON  
VICE-PRESIDENT  
DISTRIBUTED SYSTEMS ENGINEERING

**What is DEC going to do about testing its own layered products in upgrades to VMS and finding a way to provide**

*Continued on page 10*



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## QUESTION MARKS

CONTINUED FROM PAGE 8

**that information to its customers without the customers contacting a representative of each separate product line? There should be one contact point to get that information.**

RALPH BROADBRAVEN  
DIRECTOR OF RESEARCH  
AND SCIENTIFIC SERVICES  
JOHNSON & JOHNSON  
MANAGEMENT INFORMATION CENTER  
BRIXTON, N.J.

Several engineering and quality assurance groups make sure that all layered products are strenuously tested with new VMS releases. When testing and certification are complete, an announcement is made throughout the corporation to alert our sales and services organizations that the product is ready for release. Our sales teams can then communicate this information to customers.

Sales and Software Service are prepared to answer questions on product features, capabilities, application usage, pricing and availability date. Customers can also work through these organizations — that is, their local account team — when they need additional information.

BILL HEPPNER

**What's going to happen to the PDP-11? Can Digital explain its**

**views on the future of the product so I can match it to my own?**

RALPH STAMERJOHN  
PRINCIPAL ENGINEER  
MERIDIAN TECHNOLOGIES CORP.  
ST. LOUIS

The PDP-11s will continue to be an important part of Digital's product offerings because our customers still want and need PDP-11s. The PDP-11 effectively and competitively provides extremely reliable and cost-effective systems to customers requiring 16-bit solutions. We are going to continue into the future with the same approach as we have in the past — employing state-of-the-art peripherals, new packaging and new software releases as well as system improvements.

For example, the MicroPDP-11/53 has been given a significant performance boost in the MicroPDP-11/53 Plus by utilizing technology advances not available when it was first introduced. The MicroPDP-11/83 has been reintroduced with new packaging and storage products that have reduced our costs and thus allow us to offer lower priced products.

Additionally, we have just introduced a very flexible and expanded offering of the PDP-11/84, which utilizes a whole new package technology that provides increased system functionality and performance in drastically smaller environments.

We will be in the PDP-11 business for a long time.

DOM LACAVA  
LOW-END SYSTEMS AND  
TECHNOLOGY GROUP MANAGER

For new customers, Digital offers competitive software prices within each system's market. At the high end of Digital's VAX family, software prices are significantly lower than the major competitors'. For low-end software offerings, Digital is delivering a unique licensing solution to meet customers' needs for workstations and Microvax processors.

This past spring, Digital announced software license "portfolios" for its low-end VAX processors. Our license now grants the rights to use a portfolio of software products. Currently, Digital offers three such portfolios, including two Programmer Development Portfolios and a Runtime Only Portfolio.

The Base Programmer Development Portfolio includes 29 software products, including technical and commercial imaging, data base products and a wide variety of development utilities. This portfolio includes the necessary "tools" for either the professional programmer or department-level end user.

On Vaxclusters, the Base Programmer Development portfolio is currently available for only \$145 per month on a month-to-month Periodic Payment License. The portfolio program assures that our customers have unlimited access to all of these products without incurring the budgetary restrictions that often limit software usage.

DEC's software licensing policies at both the low-end workstation level and the high-end 8700 level are inflexible and extremely costly. The licensing problem keeps DEC from being competitive and keeps people from purchasing software they would otherwise buy.

**What is DEC going to do to address the problems that currently exist with licensing to allow you to be competitive with such vendors as Sun Microsystems — to create greater flexibility and more realistic pricing for software licensing?**

LESLIE MALTZ  
DIRECTOR OF COMPUTING AND  
COMMUNICATIONS RESOURCES  
STEVENS INSTITUTE OF TECHNOLOGY  
BROOKLYN, N.Y.

The VAX/VMS architecture provides an industry-leading strategy to help customers preserve their software investments whether they choose to purchase a workstation or a high-end VAX 8700 processor. Digital provides software investment protection for customers migrating from one VAX family member to another.

The recently announced upgrade policy now permits customers to trade in their software licenses on smaller VAX processors and apply the full paid value against the license purchase for a larger VAX processor.

For new customers, Digital offers competitive software prices within each system's market. At the high end of Digital's VAX family, software prices are significantly lower than the major competitors'. For low-end software offerings, Digital is delivering a unique licensing solution to meet customers' needs for workstations and Microvax processors.

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BILL HEPPNER

**Is DEC serious about getting back into the real-time (process control, data acquisition) business? At one time, DEC was at the forefront; now it's losing out. Are you trying to move back into it, and are you putting resources behind it?**

THOMAS PRONOST  
COMPUTER GROUP LEADER  
BATES LINEAR ACCELERATOR CENTER  
MIDDLETON, MASS.

Digital never left the real-time business. Our strategy has been to concentrate on real-time applications that complement and extend DEC's general-purpose computing products and networks and not to develop point or niche solutions.

We have continued to develop PDP-11 products and Q-bus real-time I/O products, introduced VAX products, added VAXBI real-time I/O products and recently introduced more integrated solutions for both manufacturing and science applications.

Specifically, we have introduced the RTVAX family of products for real-time applications. We have enhanced and improved documentation for our complementary VAX operating systems for real time — VAXELN and VMS.

We have continued support for current technologies, such as PDP-11 and Q-bus, while expanding to new technologies, such as VAXBI and industry buses such as Bus.

We provide a very wide range of real-time hardware and software products, from single-board computers to high-performance packaged systems. These complement Digital's general-purpose systems products and allow for a continuum of distributed real-time computing, integrated into a corporate computing network.

DOM LACAVA

**What, if anything, is DEC doing to reduce the cost of software packages that are run on large VAX installations but used by very few users?**

**For example, if you have a large Vaxcluster for technical computing and a couple of scientists want Pascal, it costs a prohibitive amount to use it; too much just for this short usage. When will we be able to run these limited user software packages for a more reasonable price?**

CHARLES HAM  
COMPUTER SPECIALIST  
DUPONT CO.  
SAINT MARYS  
ORANGE, TEXAS

Each member of the VAX family is supported by the same VMS software products, each of which is priced according to the relative system capability of the VAX family member.

Customers may choose to license the process that best corresponds to their needs at a cost proportional to the system's capability.

For Vaxclusters, customers may choose to license an individual processor, a group of processors or the full cluster. The decision is based on the specific customer requirements for availability, expected usage and system management objectives.

Many of the VAX processors now offer Digital's Periodic Payment Licensing (PPL) plan, whereby customers may rent software on a month-to-month basis. Many customers find the PPL plan an attractive alternative to fully paid-up licenses, to reduce initial capital commitments or to support short-term development projects.

BILL HEPPNER



## ► ON THE STREET ◀

# BEING A TOUGH CUSTOMER

BY PAUL MCALLISTER

**A** sweltering night in Maynard, Mass., hard by DEC headquarters, an assignment since noon, with no compensation but an empty pocket flask and a dog-eared copy of the *VAX OEM Sourcebook*.

The story: To find out for all those would-be DEC customers what it's like — what's *really* like — to shop DEC these days. There's only one problem: Out here in Ken Olsen's converted mill, there's no showroom. No place to walk in and kick the tires.

No salesmen at all. Just a toll-free number with operators who work like human answering machines: "We'll answer your call as soon as we can." And that makes it hard to find out what you like, much less how to buy it.

It's like the big chief with the KO monogram says: Of engineers, by engineers and for engineers. Sure, the company is flitting these days with marketing applications instead of specifications. But DEC's impulse to reform reminds you of a whoo-ping pacing outside the Salvation Army headquarters — he's unwilling to put down his bottle and go inside.

Still, you won't find out what it's like to buy DEC by hanging around the watercoolers here. Instead, you've got to talk to some people who've already signed up. You've got to knock on a few doors.

#### The Fortune 500 customer

At the end of a long, latched corridor sits an MIS director. This is one happy guy. There's a Vespa-chester next door, another down the road, 2,200 people being served on miles and miles of DecNet, more applications than you can shake a slide rule at and more coming up all the time. His life *should* be one constant headache. So what gives?

"We always get everything we want," the MIS man says, like he's surprised it could be any other way. When you call up with a gripe, the DEC diagnostics people show up within an hour. Servicemen replace defective boards that afternoon. They return defective machines within days. They even throw in free cable. Free cable.

And that's just for starters on how close counts. There's a hefty discount on new equip-

ment purchases. There are training sessions, software advisories and systems analyses with visiting eggheads on loan from Maynard. And there are regular briefings on product developments to clue the MIS staff in on what's coming up. That way, they don't, for example, buy 3270 Personal Computers from IBM the week before DEC announces a new graphics environment.

"No sir, no problems at all," the systems manager says. "Just called the lead rep the other day to talk about ways to access the main-

frame purchases. There are training sessions, software advisories and systems analyses with visiting eggheads on loan from Maynard. And there are regular briefings on product developments to clue the MIS staff in on what's coming up. That way, they don't, for example, buy 3270 Personal Computers from IBM the week before DEC announces a new graphics environment.

But the nuts and bolts are all in place. The repairman comes on time. All the manuals are updated regularly. The toll-free service lines get answered by real people with real answers — no "Decspeak." With all these things going for him, system downtime is minimal.

The best part is knowing he can actually get the stuff he wants. "It isn't like some companies," he says. In the computer business, he continues, there are certain vendors that promise solutions that somehow never seem to be available. Then he tells the joke about the IBM salesman and his wife with the punch line that goes: "All he does is tell me how great it's going to be."

#### The large DEC OEM

Fat city here. It may look like some weed-ringed warehouse in the part of town where cabs don't stop, but to its owner it looks like the mines of Solomon. Who's to thank? The high rollers in Maynard.

DEC's strategy of going after huge companies as customers, the man says, has left a lot of the smaller end users in the lurch. There's nowhere to turn for applications advice, connections to the right OEMs or a walk through the product line. Sometimes, he says, customers can't even get a salesman to show up unless DEC thinks they're so big the Hoover Dam shoulders when they fire up their system.

"They left the smaller markets wide open for us," the director says, all but rubbing his hands together in delight. He has been around long enough so that all the DEC people know him, and they gladly toss him all the non-Fortune business they can.

What's more, he says, the company gives him everything he needs to handle these customers. "Wall Street may demand the big-user strategy, but a lot of people in the home office know which side of their bread the butter's on."

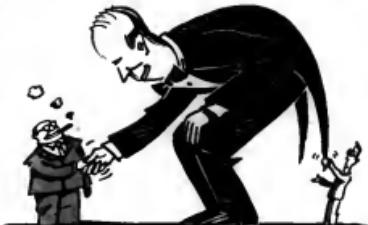
He gets the complete six-volume set of product literature, with up-to-the-minute prices and specs, updated every few weeks, his own hot line to the product people if he needs to know more, a sizable discount because he moves so much iron — and his own rep.

#### The small vertical-market OEM

"They don't want me. They flat don't want me," this guy doesn't mince words. And why should he? To hear him tell it, he had a nice steady little business in a big converted garage

*Continued on page 75*

McAllister is a Boston journalist who has covered the DEC marketplace extensively.



PEREZ STURGEON

frame, and he was here in a half hour."

Which was not such a big deal, considering DEC had just opened a field-service office not a mile away to serve his installation alone.

#### Smaller corporate customer

From the "Hey, buddy" security desk to the combination loading dock/visitor center, you can tell this outfit isn't one of those corporations with total revenue larger than the budgets of most Third World countries.

Still, it's a good-size DEC shop, with a modest Vaxcluster of its own, three dozen workstations and even an antique PDP-11 in the lab.

The data base is built up on a general ledger

on reserve for customers, isn't it complicating, either?

"My only problem with DEC is that ... They don't give me a scorecard to keep track of who my rep is this month," he says. DEC's sales group, his story goes, has been badly acronymed by the last wave of reorganizations that he's had four sales reps so far this year.

The result: None of the reps has the time to learn how his installation works. That means he gets little advice from his DEC rep on how he could save time by, say, installing a line printer in the billing department. And he never gets any warning about upcoming new products. "I do better reading the trade press," he says.

# DEC USERS



**W. FORD CALHOUN**  
Smith Kline & French Laboratories

**R**ecord earnings and press attention aside, users remain the barometer by which DEC can be measured. On a muggy summer afternoon in Philadelphia, four executives of user companies gathered to discuss doing business with DEC with Computerworld Senior Editor Glenn Rifkin and Extra Editor George Harrar.

The participants represented large and diverse organizations — the University of Pennsylvania, ARA Services, Inc., Sun Refining and Marketing Co. and Smith Kline & French Laboratories — and directed many questions and suggestions to the Maynard, Mass., computer maker. Why is DEC dragging its heels in the peripherals area? Is DEC really the software company President Ken Olsen claims it to be? How can users wade through inflexible and confusing licensing policies?



**ED ABATE**  
Sun Refining and Marketing Co.

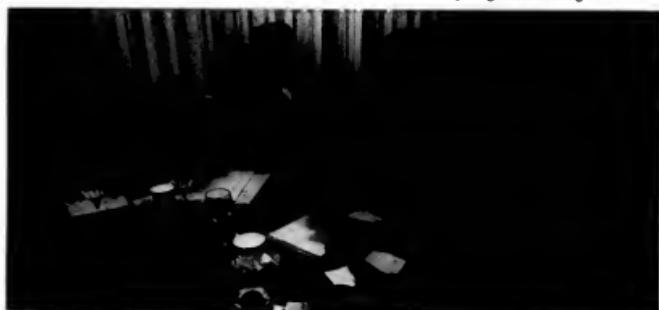


PHOTO BY STEVEN M. PALU/GAMMA LIAISON

# SPEAK OUT

**What is the single most important reason for becoming a DEC customer?**

**ABATE:** Our major reason for going with DEC was its scientific applications. Our research and development organization has a lot of scientific requirements, such as data analysis, and we thought DEC was the best supplier of hardware at the time we ordered it — and we still feel that way. Also, we selected Ethernet in order to support 200 users with minimal response time.

**CALHOUN:** Before 1983, R&D at Smith Kline was a small DEC user with a PDP-11/70. We probably got into DEC as much because of price as anything. We went from a relatively small investment in DEC to a substantial, relatively monolithic investment in regard to processors, simply because the software was there and DEC brought out machines that had sufficient power.

More recently, interconnectivity has really been the key. With the cluster, you could add more processing with no real additional effort. With Decnet and their communications structure, attaching nodes to the network was no big deal. So the energy for growing in DEC was minimal. The energy for doing anything different would have been substantial.

**DITAMORE:** The key for ARA was the flexibility DEC offered. In the corporate offices, when we first went looking for a hub for our office automation project, we really looked around. In DEC's All-In-1, we saw that we had a lot of flexibility as far as customization, and we could change the things we didn't like. Plus, the interconnectivity allows you to communicate between VAXes and other processors.

DEC offered the best way to go into a distributed processing situation through the VAXes and Decnet.

**ADLER:** It's a little more difficult to reconstruct the long history of computing at Penn. Here, the world is divided into three parts. One is laboratory comput-

ing, which is the province of individual faculty. There is a real desire for autonomy, and DEC with its PDP line and the VAXes provided that opportunity on reasonably safe grounds for people in laboratories.

The other part is time-sharing. The time-sharing system on the Decsystem-10 was perceived as friendly. And they were able to support programming languages that people were using on other systems like Fortran and APL. And when that [Decsystem-10] line left, VAXes automatically took its place.

Networking is the third reason why DEC made its presence felt with VAXes, particularly in the engineering school. Even though we think we are more adventurous in our networking strategies than most commercial places, we really got our feet wet with DEC and their networking software. That was a good way for us to begin and a reason why DEC is as omnipresent as it is in the engineering school.

**Is there anything in the DEC product line or strategies that could discourage you from staying major DEC customers?**

**CALHOUN:** If you take the processors themselves, right now the horizon looks fairly good. But, for example, DEC has been talking about optical disk for three or four years now. We're just getting tired of listening. We want something, and the conversation has gone on too long.

Clearly, DEC's magnetic disks don't have sufficient capacity or speed. Can the disk keep up with the processor? If DEC doesn't do something and a third party has something interesting, we'd certainly pay lots of attention.

DEC's not our choice for laser printers. And a lot of people are doing interesting things with terminals — DEC's not necessarily our first choice.

DEC's trying to do some interesting things with workstations. But if you look at the competition from Sun

*Continued on next page*

**E. CATHERINE DITAMORE**

*ARA Services, Inc.*



**JOEL ADLER**

*University of Pennsylvania*

## DEC USERS

FROM PREVIOUS PAGE

[Microsystems], it's not clear that DEC is the vendor of choice there. So, once you get outside the central processors, it's an open field.

**ABATE:** I agree with Ford [Calhoun]. DEC is very strong as far as mainframes and minicom-

puter concerned, and VMS is probably the easiest operating system to learn and to use. But DEC is lacking in peripherals support. We are looking at third parties all the time. We are considering getting the EMC memory for upgrades. EMC is coming out with an optical disk now. And DEC hasn't said much about optical disks yet.

**DITAMORE:** We have to make

*Extra*

the choice: Do we want to stay a pure DEC shop, or do we want to mix our vendors within the computer room itself? I've chosen thus far to stay with the pure DEC computer room, with the exception of my communications, because it simplifies my maintenance efforts. But it's the workstation area that produces the greatest challenge.

When DEC announced the

Vaxmate, it looked like a reasonable product. But they are not really trying to share with the user community what their strategy with that product is. And given their past history with the Professionals and Rainbows, ARA can't really set direction with the Vaxmate without knowing that strategy, especially in light of IBM's recent PS/2 announcement.

**Have you bought Vaxmate?**

**DITAMORE:** No. We have no reason to. We have all the varieties of IBM Personal Computers, PC XT's, AT's, and we've got some new PS/2's now. We put terminal emulators on them, and we can do whatever we need to do.

**CALHOUN:** We're in the same situation with the Vaxmate. At first blush, you look at the literature, and it should be an exciting product. And it may be for some people. But the Vaxmate offers no advantage to us over the IBM AT class and the clones, which is where most of the software came out in the micro world.

It's the generic workstation for the office. The Vaxmate doesn't fit into a migration path — you want the file server and print server capacity of the network.

Ken Olsen said, "The network is the computer." I believe that's the right concept. But how do you get these generic PCs plugged into this distributed computer? The Vaxmate kind of offers that if you are willing to disinvest in your current infrastructure and training and everything else.

**Is software a problem with the Vaxmate, or is it the advent of the PS/2 that is throwing you off?**

**CALHOUN:** With the PS/2, it's not clear where that will evolve. As for the Vaxmate, we just spent \$200 million plus for a new building for R&D. Part of this building is a broadband network. There are Dec servers in every communications closet, and there is twisted-pair running to every desk.

Now, are we supposed to rip out all the twisted-pair and put in thin-wire Ethernet so we can take advantage of this probably interim solution at the low end of the market?

**DITAMORE:** We have the same problem regarding Ethernet. We moved into our new facility just over a year ago, and prior to moving in, we wired our entire facility with AT&T's Information Facility System Network. There's an ISDN connection in every office. I run three into Xyplex cluster controllers in my computer room. With that already in place, I can't pull all that out to put in Ethernet.

**Pricing is another issue. Pricing of the Vaxmate, with all the software you need to bundle with it, is more than it is going to cost me to buy an IBM XT.**

**ABATE:** Since both of your installations are relatively new, why didn't you put Ethernet through the building in the first place?

**DITAMORE:** We have a need for people to access not only the VAXes but also the IBM mainframe. We also have a Honeywell system there and some

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Burroughs equipment.

**ABATE:** But you could have used an SNA [Systems Network Architecture] gateway through the VAX to access the mainframe.

**DITAMORE:** From a single terminal on a desk through AT&T's ISDN, a user can select which CPU he wants to go through, and part of the communications mandate is to provide any protocol conversion so that a PC or a terminal can look like a terminal to whatever processor he happens to have access to.

**CALHOUN:** We do have Ethernet. A broadband network runs Ethernet subchannels, and, until fairly recently, DEC's communications answer was twisted-pair from the Decarver. So we put the Decarver in a closet, and we run twisted-pair to the desk. It's since those things were built that DEC has decided on a thin-wire Ethernet. It's a more recent phenomenon.

**ABATE:** We installed Ethernet in late 1984.

**CALHOUN:** Our building was being constructed then. From the Decarver, twisted-pair was DEC's strategy at the time the fastnet was being designed. Thin-wire Ethernet is a visible, a change in the technology. It's not a criticism of DEC. You have to look at technology on any given day and make a decision.

**DEC's licensing policies are said to be inflexible and overpriced. Is that a concern to you?**

**ABATE:** Before the Decus meeting last year, DEC was considering instituting a policy that said, "If you are upgrading from a VAX-11/785 to a VAX 8500, which is a different class of machine, you will not buy all new licenses, and you will not get any credit for licenses purchased on a lower grade machine." DEC had always given that credit. It created such a furor in the DEC community that they retracted it. We were very upset about that.

**CALHOUN:** We have a generic problem with cluster licenses. I don't think DEC has a policy that is clear in practice with cluster licenses.

**ADLER:** I've been discussing with DEC at various times, and it is a real dilemma for them, because they certainly want to keep their revenue maximized, but they also want to penetrate workstations as quickly as they can at the end of their networks. And they really don't know how to handle that.

Do you buy one license for a piece of software that you keep on the cluster and then install it actively and dynamically whenever anybody wants it on a workstation? Or do they automatically charge you for every potential workstation that could use a piece of software?

We are seeing the symptoms that they are not sure how to do that, because arbitrary or onerous pricing at the workstation level is going to cut back at precisely what they want to see happen, which is to have a penance of workstations.

**CALHOUN:** Take something like Vaxnotes, a product that a few people in R&D use. Clearly, horsepower-wise, we could run it on a Microvax. But you'd like for those few people to use it in some neat way on the cluster. Now, does this mean that if you are running a cluster with two 8700s and two 8650s that you have to have licenses of that class for Vaxnotes to satisfy five users?

With some vendors, you can make deals. Some vendors will understand that this is an awkward situation, that you can't pay \$200,000 for five people to use something that you could run on a Microvax for \$5,000. It's a very difficult situation that the industry, as a whole, hasn't been able to face in a productive way.

For us, it's a major concern. Software is expensive if you are running large clusters and want to take advantage of all the good things about clusters. What we do is take all the things a few people use and put them on one machine. We lose many of the advantages of clustering.

**DEC recently lowered the price of the Vaxstation 2000 to make it more competitive. Does this price reduction make the workstation more appealing to you?**

**ABATE:** We were going to get the 2000 anyway. We ordered it when it was \$13,000 for the color. Now, it's under \$5,000 for the monochrome. But we had decided back in March that we were going to go with the 2000 for two workstations that were used to do system maintenance and monitoring.

**DITAMORE:** It has no application in the commercial world.

**CALHOUN:** It has tremendous applications. But you look at the competition and say: Is DEC more aggressive than Sun or other vendors? You do lose something with the other vendors, and you don't have to run the Unix operating systems.

But those are complexities we are going to have to face anyway. Too much software is coming out running under Unix. Somehow, we're going to have to accommodate that. Again, in a research environment, you generally don't do one application a lot; you don't do production runs. We have biological scientists, chemists — all needing the most power and best graphics. We have every sort of discipline you can imagine in science, and each is moving at a fast pace. So the software dictates.

**The software dictates over the advantage of being able to plug and play a Vaxstation in the network?**

**CALHOUN:** Yes.

**Ken Olson likes to describe DEC now as a software company.**

(General laughter.)

**How do you react to that?**

**CALHOUN:** I think it's ridiculous.

**DITAMORE:** DEC is still a hardware company. I don't think they are doing anything in the area of software to compare with what they are doing in hardware. I look at some of their office products. All-in-1 comes out with a release once a year, which says to me that they are not spending an awful lot of time trying to beef up the software.

Also, they are not doing anything at all with some of the major third-party commercial software companies to try and put together co-marketing arrangements so that they can really try to get people to migrate from the large IBM shops to VAX.

**CALHOUN:** When you ask us to react to DEC as a software company, maybe I'm cynical, but I don't believe DEC is a software company. I don't know of any hardware company that I consider a good software vendor. It seems to be impossible to play in both camps.

So, I don't expect it, and I don't react negatively to the fact that it isn't there.

The advantage of late to those of us with a lot invested in DEC is that a lot of third parties have migrated to DEC. SAS is an example. In the research environment, SAS is a dominant force, and the fact that they've seen fit to rewrite all of their software to optimize it for DEC makes DEC a more attractive vendor. The third parties moving to DEC make DEC more viable from the point of view of software.

**DEC has recently released products very quickly. How do you keep up and assimilate? What role does the DEC sales representative play in keeping you up to date with products and strategies?**

**ADLER:** The people from DEC that we have at Penn certainly keep us advised as to what is available. But I tend to find that the software offerings are quite greedy, in terms of the hardware resources they'll consume. So I tend to look at those a little bit askew. Generally, what they do in hardware has some meaning, and they do keep us advised.

**Have the announcements come too fast?**

**ADLER:** Well, we're pretty tuned in technically. Generally, because we're the engineering school, we tend to have a pretty open dialogue about where DEC is going. I find most key customers also know where DEC is going. Our situation is somewhat complicated because I have an announced policy of a multivendor environment, using Unix. And that really puts the DEC salespeople in a bind, because they recognize they don't have a province within their own.

**CALHOUN:** We're so plugged in to all the channels; we probably don't get very much initial information directly from sales. People go to Decus, Decworld, to occasional

*Continued on next page*

## THE PARTICIPANTS



**E. CATHERINE DITAMORE** is manager of the computer department in the Applied Research and Development group of Sun Refining and Marketing Co. in Marcus Hook, Pa. Alante has been with the Sun computer group since 1984 and took over his current position in 1985. He holds a master's degree in chemical engineering from Villanova University. Prior to 1984, Sun, a major oil company, was an IBM shop — from its corporate computer center in Dallas to the research and development facility in Marcus Hook. Today, Sun operates a DEC VAX 8500 in addition to three Microvax and two Vaxstations. The R&D group plans to install a VAX 8500 by next May. The four-story R&D facility is wired with Ethernet.

**W. FORD CALHOUN** is vice-president of information sciences in R&D at Smith Kline & French Laboratories in Upper Merion, Pa. Calhoun uses DEC clusters for his company's shared computing. His shop currently runs two VAX 8700s, two VAX 8650s and four VAX-11/785s, which provide a total power of 30 million instructions per second. Calhoun, with a Ph.D. in microbiology from the University of Georgia, has been with the giant pharmaceutical firm for three years. Previously, he was director of research computing at Mount Sinai School of Medicine in New York.



**E. CATHERINE DITAMORE**, manager of technical support for corporate MIS at ARA Services, Inc. in Philadelphia, is a longtime DEC user and an active Decus member. She is responsible for the planning, operation, and support of the technical DP/communications and data automation environments at ARA's corporate headquarters. Prior to bringing two VAX-11/785s into a cluster at headquarters four years ago, the company was a totally IBM shop. Today, the national food service supplier has installed more than 80 VAXs around the country for service support. All are networked to corporate headquarters, which runs a VAX 8650, two VAX-11/785s and a VAX-11/750. The cluster is connected to other systems via Decnet.



**JOEL ADLER** is director of computing at the School of Engineering and Applied Science at the University of Pennsylvania. IBM and DEC dominate the multivendor environment of the university as a whole. In 1983, DEC signed an agreement to sell more than \$22 million worth of equipment to the university. The engineering school alone uses four VAX-11/785s and four VAX-11/750s in a cluster, along with a VAX 8650 running Ultrix. Adler, who obtained a Ph.D. in operations research from the school, has held senior positions in MIS at several Fortune 500 companies.

PHOTO BY STEVEN M. PALAGI/AMERICA/LAUREN

# DEC USERS

FROM PREVIOUS PAGE

non-disclosures. And my people go to various DEC functional groups to discuss issues with them. We don't depend on salesmen as being the first source of information.

**Have you had the same sales agent for a number of years?**

**DITAMORE:** No. For about the last year and a half, I've been dealing with one account rep. Prior to that, we had maybe three or four and found them to be deficient in one way or another.

And finally, DEC recognized that they weren't doing the job for us. A lot of them would frame bushes them over the head, saying, "You're not helping us." I'll read about something in the trade press. I should be able to call my account rep and say, "Get me literature on this," and they would at least know what I'm talking about.

**You find that you often know more than the sales rep?**

**DITAMORE:** Sure. But I think that has really turned around. I

don't know if that has to do with the reorganization of the DEC Philadelphia office and the new district manager we've got, but I have seen a definite change, and it's all for the better.

**ABATE:** So have I. The biggest problem I've had is that we have two or three very sharp technical people in the organization supporting the system. And when I'd ask questions about how a piece of hardware or software would fit into our system, usually the salesman doesn't have an answer, and it required a follow-up meeting. The sales rep we have now is a technical person who came up through DEC software, and that's worked out a lot better.

**DITAMORE:** I've been with ARA for three years; prior to that I worked with an OEM and prior to that as a user. And my expectation is that as a user, I would always get better support than an OEM. And when I first came to ARA, that was not true. ARA, at that point, didn't know they should be getting better service than they were.

**DEC reorganized during that period — three or four years ago. So you've seen an improvement?**

**DITAMORE:** Oh, absolutely.

**CALHOUN:** It's probably that the sales organization has better technical support.

**DITAMORE:** Another area of concern about the relationship between companies and the sales organization is that when a DEC customer has sites scattered across the U.S., DEC still doesn't seem to see the need to assign an account rep to that customer who has a great deal of expertise and has been with DEC a long time. They don't give one of their senior people to a company like that, which is unfortunate.

**ABATE:** Didn't they assign a corporate account manager to you?

**DITAMORE:** Not yet.

**We've been told that is their policy.**

**CALHOUN:** We have one.

**ABATE:** So do we.

**DITAMORE:** We're working toward that.

**Are there other areas in which DEC's growth has affected you — either negatively or positively?**

**ABATE:** I've seen an erosion of what I would call deep support over time for all vendors. And I take IBM as the benchmark. Fifteen or 20 years ago, when the salesman came to talk to you, he was generally somebody with a good technical background. And you usually had a systems engineer on-site who understood everything there was to know about the operating system. I don't think that exists anymore, having an engineer on-site who can integrate all the products and the services and functions [the system] can provide.

**CALHOUN:** In my view, DEC has moved positively in that direction. We have a field service engineer on-site. He's primarily a hardware person, not a software person. But he acts, for all purposes, as if he reported to our R&D group. He worries about the system. He stays late when things aren't working. I don't know to what extent this occurs elsewhere, but this guy sweeps and worries about those machines being up just like other people on the staff do.

**He's there every day?**

**CALHOUN:** Yes, he reports every day. It's a big installation. There's probably about a \$15 million investment on the floor. That's not a trivial installation. But the motivation is something you can't pay for, and this person brings it.

**ADLER:** In the commercial accounts I come across, there is a sense of ownership by DEC, certainly at the hardware level. We've been so conditioned at the engineering school to take care of ourselves — plus, we have a certain sense that we can't im-

pose too much on DEC because we have a multivendor environment — that we've become pretty much self-sufficient.

We honestly feel that we know more about the products, especially in the software end, than they do.

I'm not talking about maintenance. We have DEC contracts for maintenance. But in terms of intricacies — how do things work and what one can and cannot do — especially in the Ultrix world, there, it is very hard to find expertise within DEC, and we really don't expect it.

**Is the level of sales, service and support different with other vendors?**

**ADLER:** I don't think so. The engineering school's perspective is that we are pretty much on our own when it comes to figuring out new ways to do things.

**CALHOUN:** IBM used to claim they knew your business. They knew all the players, all the kinds of systems they were selling. They worried as much about what your next configuration should be as you did. And it always cost you extra.

DEC traditionally didn't do that kind of way. They came from a department-level, barebones, "you need a machine, here's a machine" point of view. DEC has moved toward more integrated support but not to the extent that IBM is said to have on once had.

**ADLER:** I wouldn't expect it, and I'm not sure I would really want it.

**CALHOUN:** We wouldn't particularly welcome it. We do believe we understand our business and our site. All vendors are going to have a conflict of interest, and we really have to be on top of it.

**DITAMORE:** I would like to see more leaning toward the way IBM used to do it. I would like my account rep to understand the business we're in so that when products are announced by DEC, he would have enough of an understanding of what we are doing to be able to help us determine which of those products we need to be bothered with. I have other things to do than sit and read brochures all day.

**Your account rep doesn't have that ability?**

**CALHOUN:** I think he has learned it over the past year and a half. We've worked with him and helped him understand what is going on in the organization. But that's a time I've invested because I feel it would benefit me.

**Do you expect that sales rep will stay there?**

**DITAMORE:** On God, I hope so.

**ADLER:** Do you invite contacts between your salesperson and your clientele, namely the end users who would be served by the equipment?

**DITAMORE:** The account rep does not talk to any of my end users. I have not seen a need for that. Outside of corporate MIS, nobody knows anything about the VAX.

**ADLER:** All the more reason for an in-house technical person to accompany the salesman.

**DITAMORE:** Because of my involvement with Decus, I've got some people coming down from DEC to talk to some end users who are evaluating their current mail product. They want some input from people who don't know anything about MIS, who are just pure vasals users of the product, to find out how they use it and don't use it. That's productive because those people are from the engineering group. I don't think it's productive for a sales or account rep to talk to my end users.

**But you want the DEC rep to know the business better. Perhaps that excess part would help him learn it.**

**DITAMORE:** In our corporate MIS group, we have someone with the title of manager of systems development, and he's the one responsible for developing all the programs for our users groups. He does the interviews with the users groups. He has that knowledge. He's the liaison.

**ADLER:** The salesman's presence on-site has to be managed in some way. You can get a lot of miscommunications and misperceptions on the part of end users, who, in joint enthusiasm with a salesman, would propose solutions that are either infeasible or uneconomical or impractical.

**ABATE:** I'm the only one that talks to the salesman. I represent all the end users, and he doesn't talk to them.

The area DEC is still lacking in is administration — dealing with invoices and paying the bills.

For example, in Marcus Hook, we have three sites. In those sites, we have three different systems managed by three different organizations, yet DEC continues to send us one invoice, and we have to divvy up the cost. We have told them repeatedly we'd like separate invoices, and they just fail to do it.

**DITAMORE:** They can't deal with it.

**ABATE:** You want the discount for having three sites represented, then you have to take one invoice.

**CALHOUN:** But the salespeople generally find ways to deal with that.

**ADLER:** It depends how big a client you are.

**ADLER:** Maybe what you are saying is that DEC doesn't have good MIS systems for managing their accounts.

**DITAMORE:** I'd like to go back to

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service for a minute. Everybody has been talking about their wonderful experiences with field service. I have not had such wonderful experiences as I've had at ARA. And two years ago, I chose to leave DEC field service and go to a third-party maintenance house.

DEC's attitude was, "Your system doesn't need to be up as much as you say because you are only doing office automation." Of course, my response to that has to be, "I contract for service, and if I want my system up, I want it up, and you don't tell me what I want."

Despite that, at this point in time, I am considering going back to DEC for field service.

#### What would make you go back?

DITAMORE: Primarily, for political reasons within the corporation. When new groups begin to look at DEC products, they have concern because they know I have left DEC field service. That's taken as a negative sign. Two years ago, field service was just beginning its reorganization, and that is now complete. I've heard very positive things about field service now.

#### Have you run into other administrative problems: turnaround on product delivery, billing cycles?

ABATE: Yes. We lease all our equipment, and we recently upgraded from a VAX-11/785 to an 8500. That occurred [as of] 23 July of this year. DEC is still billing me [as of July 8] on the maintenance of the old equipment, despite three or four confrontations with my sales rep to straighten it out.

#### What does he say?

ABATE: They are working on it. I'm sure I'll eventually get credit for everything, but it seems strange to have to wait three or four months before they straighten out a bill.

DITAMORE: It sometimes seems that 14 people are working on the same problem, and that no one person can carry it through and actually find out what is going on.

ABATE: When I upgraded my system, I figured my salesman would handle the billing, but he didn't.

CALHOUN: We have, from time to time, invoices that have to be cleaned up. But I would say, in our experience, DEC has been quite good — not worse than any other vendor we deal with.

#### Is Ducus your most effective voice for communicating with DEC, or do you have other ways to make your opinions known?

DITAMORE: For ARA, Ducus is the primary vehicle. I became very involved with Ducus three years ago and now have contact with the people I need to talk to.

ABATE: There's always strength in numbers. I see the same situation occurring even within our company. We have several different users of DEC equipment, and we haven't really established a consistent pricing policy on new hardware. We have X percent corporate discount. I have received two special deals in the two up-grades I've done.

Now, we also recently upgraded two VAX-11/785s to 8500s for our trading company. When they got their quote, they got their standard corporate discount. The response was, "Ed Abate in

R&D got X plus Y percent discount, how come I'm only getting X?" DEC went back, retorted it and said, "OK, we'll give you the same deal." Those kinds of things bother me. Our corporate people think there should be a more consistent pricing policy.

JOHN BUCKLEY, manager of business operations at DEC, told us that the company simply doesn't do that.

ABATE: Maybe I'm just a good negotiator.

DITAMORE: I've been in similar situations, and I think a lot of it has to do with how much the district manager can do, because there are corporatewide discounts and some other things you can do.

#### So there's always room for a little horse trading?

DITAMORE: I think so. At least I've seen more of it in the last few years than I have before. I've been working with DEC products since 1973. In the old days, you couldn't do anything. I think it's because DEC is expanding its marketplace and has seen that much more competition.

ABATE: It's the corporate philosophy of DEC. They know that most large corporations are IBM shops, and they want to make inroads into that market. They are doing that by whatever way they can to get their equipment in there.

#### What other problems occur in doing business with DEC?

CALHOUN: We're a distributed company, and it's not clear to us that DEC knows how to deal with a decentralized organization. Corporate takes primary responsibility in negotiation contracts with DEC, even though we at R&D are the primary customer. And sometimes we don't see those proceedings until quite late in the game. Whether that's our fault or theirs, I don't know.

ADLER: In universities and colleges, DEC is more generous in their discounts than with their commercial customers.

CALHOUN: I'm an adviser to a group at Georgetown, and their complaint about DEC is that they get no extra discounts. They are treated as any independent customer would be.

ADLER: That's not what I've heard from DEC. In our case, maybe it's volume-related, but generally, they do make accommodations to educational institutions.

CALHOUN: When I was at Mount Sinai School of Medicine, I know it wasn't the case. We did not get any special arrangements from DEC.

#### Have you seen IBM using the 9370 to try to get your business away from DEC?

ADLER: I haven't seen it. My opinion is that, at least in the engineering and scientific market, IBM is going to have tough going, unless a client is already a VM user which is a very clearly segmented portion of the scientific population. Now, IBM is making noises about Unix on the 9370. And if that offering would be acceptable to

engineers the way Unix on the Sun [works] or VAX is, I think they've got a good shot.

Because IBM still does have an sur-

DITAMORE: I believe that the 9300 series is going to be direct competition with VAXes. That's really clear. If a shop already has an IBM line, there is no way they are going to switch over to DEC. If a shop has a DEC line — there are few around, but if they do — they'll go with VAXes. I don't see any reason why a shop would switch to VAX if the 9300 is there.

So you think DEC's growth into IBM accounts is going to be stopped by the 9370?

DITAMORE: It's certainly going to be stalled a lot.

ABATE: I believe that in most corporations the philosophy is still IBM first, DEC second. For the scientific community, it's been DEC. Even though IBM didn't have something comparable to DEC when we made our decision, we had a lot of pressure to go with an IBM system.

#### Is that because corporate is IBM?

ABATE: Yes. But now there are two vendors.

ADLER: What do you believe DEC is going to be able to run on the corporate side?

Continued on next page

## COST PER USER OF DEC DEPARTMENTAL OFFICE SYSTEMS

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about it, people still look to them for reliable equipment and service. If they can accommodate scientific standards, namely Unix and TCP/IP, they could get back into that market very quickly with the



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## DEC USERS

FROM PREVIOUS PAGE

**ABATE:** Transaction processing. **ADLER:** Existing applications or new applications?

**ABATE:** I don't know, but that's a concern the corporation has.

**In the future, can DEC create the applications that will run on**

IBM mainframes?

**CALBONI:** Whether the 9370 is the "VAX killer" or not is unknowable. It seems, more and more, software is dominating people's decisions. We don't use All-in-1. But All-in-1 has probably sold a lot of VAXes, because it offered a solution people needed.

**With IBM, unless this hardware brings on functionality that doesn't exist, it's hard for me to**

believe that people are going to rush to substitute. People follow the functionality.

**Look at Stellar [Computer].** Supposedly within a few months, they're coming out with a 20 MIPS workstation for molecular modeling. The whole world is changing. I don't think DEC or IBM can dictate the terms anymore.

**I don't think the vendors nec-**

essarily understand that, for the most part, we put up with them because we have to, whether it's IBM or DEC.

**If you could deliver personally to Ken Olsen one suggestion for improving DEC, what would it be?**

**DETAMORE:** As far as networking hardware goes, DEC hasn't been willing to take a position so

far on what they consider the best: point-to-point, multipoint or multidrop.

**And any customer who is trying to make a decision is concerned about how upgradeable each one is going to be.**

**With the communications costs being what they are and links to the local BSC and packet-switching networks being what they are, you don't want to make the wrong decision now.**

**On the software side, Decnet is a wonderful way to communicate and gives a lot of flexibility. But DEC has not kept it current with technologies that have come along.**

**ABATE:** From a corporate point of view, we'd like to see a more consistent pricing philosophy from DEC in all areas of products and services.

**CALBONI:** I'd tell Olsen to pay attention to what is weak in the product line, such as optical disk, general disk capacity, the problems evolving in how to support twisted-pair. The way I see the computing world evolving is in terms of the Andrew project at Carnegie-Mellon and the Athena project at MIT.

**But to the extent that DEC can help that agenda, DEC will position itself well and help all of us satisfy our functional needs.**

**ADLER:** Our strategy at the engineering school is one that views hardware more and more as a commodity. Because we are more resource-constrained, we must have the ability to have true interconnectivity among the variety of hardware vendors.

**Given that, our preference is to always go with the strongest vendor. Clearly, DEC is now one of the big two.**

**So my hope is that DEC sees the opportunity to deal with the hardware and operating system and networking world in a non-proprietary manner.**

**If they make up their mind that that's what they can do, they really will be able to continue their growth, because people do want to have homogeneous hardware environments where workstations come from the same places that mainframes come from. That's really Ken Olsen's philosophy — that the network makes the system. I would like to see that in a non-proprietary mode rather than a proprietary mode. I think DEC can manage it.**

**CALBONI:** But this is a dilemma all companies face. Do you lose more by providing an open architecture, or do you gain more? Is what is good for DEC good for the world? No company has all the solutions to all the world's needs — not IBM, not anybody. The world will be a multivendor world.

**ADLER:** DEC is probably in the best position to survive in the long haul in that type of nonproprietary environment.



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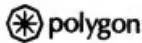
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# STEPPING OUT INTO DEC TERRITORY

*IBM was once the only safe choice for MIS;  
now DEC is winning converts*

BY STANLEY GIBSON

**D**espite IBM's widely perceived image as the safe computing vendor, some users have rejected the Big Blue security blanket and struck out on their own with Digital Equipment Corp.

In a search for cradle-to-grave computing, these users are deciding that DEC can do a better job of extending the life of their software and protecting their hardware investments.

The cutting of IBM apron strings caused such alarm to the industry giant, known as "mother" to many users, that she was shocked into action, offering mid-range incentives to her sales force and unveiling last year the 9370 departmental computer — the so-called VAX killer.

Most IBM users who leave home do so because they reach a crossroad in their computing needs. Typically, they have been running System/36 and System/38 mid-range machines; 8100 processors and 4341, 4361 and 4381 systems. Having outgrown one IBM system, they often face a costly conversion to another. Bloodied in previous IBM-to-IBM conversions,

*Continued on next page*



Gibson is a Computerworld senior writer.

ALEXA GRACE

## STEPPING OUT

FROM PREVIOUS PAGE

some veterans are finding that it is simpler and cheaper to choose one final conversion — to DEC.

DEC spotted these areas of vulnerability in the IBM world and has been making hay at IBM's expense. DEC set up a plethora of migration organizations that stand ready to assist customers in making the switch (see story page 23).

Once DEC establishes itself in an account, it seems there to stay. "Once you've been 'VAX-inated,' it's pretty much a done deal. I've never seen anyone who has gone the other way," converted from DEC to IBM, says Charles Riegel, a spokesman for Software AG of North America, Inc.

### Former 4381 user

One user who has flown the IBM coop is Perdue Farms, Inc. The well-known poultry company, led by Chief Executive Officer Frank Perdue, wanted to construct a new billing and order-entry system. Perdue had been using IBM 4381 mainframes.

"This is intended to be the last conversion," says George Reiswig, senior director of management information services. Previously, Reiswig converted from IBM's DOS VSE to VM and later switched to MVS/VA.

"We had a bad taste left over," he says of the change to MVS/VA. "Software conversions don't add anything to the bottom line. They are very risky projects." In addition, he says, senior management seldom understands the nature of the undertaking but holds information services accountable just the same.

"We're in the chicken business. We're not into technical development," Reiswig says.

Perdue began its decision process by choosing Software AG's Adabas Natural. Reiswig then found that the software ran better on a VAX than it did on IBM equipment, even though Reiswig points out, Adabas was originally written for IBM and was only later rewritten for DEC.

"DEC teamed up with Software AG and demonstrated a much better capability," he says. In addition, the software costs less to run on DEC — by a significant margin.

Perdue also wanted 100% uptime, and to accomplish this goal required that two computers each contain the same data base. If one site were to go down, another with an identical data base would have to come up within five minutes. In addition to providing data base backup, the second site was to perform general-purpose computing.

IBM proposed running a 4381 host with another 4381 at a second location. Periodically, the principal computer would update the data base of the second. But the updating was not frequent enough to satisfy Reiswig. DEC was able to propose data base updating between two remote VAXes that was almost instantaneous, he says. "It came down to a decentralized vs. a centralized solution," Reiswig says.

In the future, Perdue plans to install DEC Microvax IIIs at its feed mills and other scattered locations. In all, the poultry firm may add a dozen more VAXes, Reiswig says. "With one operating system, it is possible to grow in a granular fashion."

Now that it has lost the bid, IBM has

"ONCE you've been 'VAX-inated,' it's pretty much a done deal. I've never seen anyone who has gone the other way."

CHARLES RIEGEL  
SPOKESMAN, SOFTWARE AG OF NORTH AMERICA, INC.

been trying to regain Perdue's business. "IBM has been very positive about getting back into position," Reiswig says.

The move to distributed processing was also key in the decision by Canada Cement LaFarge Ltd. to purchase a number of VAXs for several locations. The Toronto company, a subsidiary of LaFarge Corp. in Dallas, had used a service bureau

running IBM 370-architecture mainframes. Remote job entry was accomplished on DEC PDP minicomputers at Canada Cement's various locations. On the remote mainframes at the service bureaus, Canada Cement ran its Cobol programs under MVS.

"We wanted to go to a more remote approach. We wanted to move away from

the service bureaus," says Warren White, manager of MIS at Canada Cement. Under this scheme, each location would handle, on a minicomputer or small mainframe, its own computing needs, including inventory, statistics and accounts payable. In 1983, the company began to request proposals from a number of vendors.

Because the firm's plants in different parts of the country are of different sizes, its computing needs covered a large scale. Also, it would be necessary to rewrite the mainframe applications for whichever smaller machines were chosen for the distributed sites. In addition, the smaller computers would have to be able to grow as the business at each site grew.

IBM proposed a combination of the

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System/34, 38 and 4300 series processors. But none of these components was ideal, according to White. The System/34 was too small; the System/38, although a good development machine, was likewise too small for the regional offices; and the 4300 was too large.

By contrast, even in 1982, DEC offered "the lowest, deepest product line," according to White. Consequently, Canada Cement could upgrade the system at any site as business increased while still running the same software.

Canada Cement's original order, placed in June 1983, called for a single VAX. Over the four years since, 17 VAXs have been installed, including VAX-11/730s, 11/750s and Microvax IIs.

Inventory and statistics programs,

written in Basic for the PDPs, were rewritten for the VAXs. The mainframe Cobol program, McCormick & Dodge Corp.'s General Ledger, was purchased in a VAX version. According to White, Canada Cement was the first site to use that software on VAXs. Canada Cement also bought M&D's fixed assets program and wrote many other applications itself.

**"We had an open mind"**

Faced with the need to completely redo its computing system, Foothill-De Anza Community College in Los Altos Hills, Calif., approached the question of computers with a tabula rasa.

"We had an open mind. The district was floundering. We asked, 'What do we want out of computing, period?'" says

William McDonald, manager of data services at the school. An IBM customer since 1970, Foothill-De Anza most recently ran a 4341 processor for such administrative tasks as payroll, finance and academic records.

The college sent out a request for proposal in June 1986 for which there were only two bidders — DEC and IBM. McDonald sums up the difference between the two as connectivity. "IBM was more directed to saying 'a piece of hardware will do it for you,'" he says.

IBM bid a 4381 Model 13. "But that didn't solve the connectivity problem," McDonald says. Also, moving from the 4341 to the 4381 would have entailed going from VSE to MVS/XA, according to IBM's proposal. But McDonald says,

"This wasn't any quick solution."

DEC won the bid, which carried a price tag of \$1.2 million. Faced with a user moving to DEC, IBM requested and was granted a meeting with McDonald's boss, the director of business services at the college. McDonald was not allowed to attend. But IBM's entreaties did not sway the decision.

A veteran of several IBM-to-DEC conversions, McDonald says the IBM-to-DEC conversion has "taken a lot of hours but was not difficult."

Now, Foothill-De Anza has a VAX 8650 running VMS, supported by 20 disk drives and four tape drives. Connected to the VAX 8650 are 160 DEC VT 220 terminals. The VAX is ready for future clustering with a Hierarchical Storage Controller (an HSC 50) and a star coupler already installed so that other processors can be added easily. Clustering is scheduled to come in 1988, with the addition of a VAX 8600.

The future also promises the addition of distributed Microvaxes. Currently, three Microvaxes are installed, one each at the De Anza campus, the Foothill campus and the district office. The processors are connected to each other by 56K bit/

**THE IBM-to-DEC conversion has "taken a lot of hours but was not difficult."**

WILLIAM MCDONALD  
MANAGER OF DATA SERVICES,  
FOOTHILL-DE ANZA  
COMMUNITY COLLEGE

sec. leased lines. The college still runs a 4341 system but is phasing it out, according to McDonald.

Foothill-De Anza is only one of 105 community colleges in California and the first to convert to DEC. McDonald says others are watching his experience closely, and it is very likely that some will follow Foothill-De Anza's lead.

**Cost half as much**

Despite hardware offers from DEC and IBM that were priced about the same, Atlas Powder Co., a subsidiary of Dallas-based Tyco Corp., found that the same software would cost \$700,000 less to run on DEC equipment. That clinched the decision. "It cost about half as much to run software for DEC as it did with IBM," says Darwin Wolfe, director of information services for the maker of explosives. The software is a Cincom Systems, Inc. package for controlling manufacturing and finances.

Wolfe recalls that Cincom officials told him the software is easier to develop and maintain on DEC than on IBM equipment. "We told IBM about this, but they couldn't say much of anything," Wolfe says.

A 4381 Model 12 user for five years, Atlas Powder had been looking at modernizing for two years, according to Wolfe. IBM proposed a 4381 and a 9370 Model 20. However, Wolfe says, he did not want to be a guinea pig on the 9370 and suspected the 4381 was near the end of its life.

In May, the decision to go with DEC was made. As is its frequent practice,

*Continued on page 23*

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## MIGRATION PATHS

**K**nowing the points at which IBM users often move to other systems, DEC has developed programs to assist changeover to its processors. The firm offers software conversion tools designed to translate data files, procedures and programs written for IBM System/36 and 38, 8100 and 370 architecture systems into code that is usable in the DEC VAX.

"It's a one-time conversion; that's what we sell," says Patrick Patterson, unit manager of DEC's support services in Woburn, Mass. Patterson is in charge of DEC's RPG migration program, which assists customers in moving to VAX processors from systems that use the RPG language, such as the System/36 and 38. The group is not limited to IBM migration, she points out, and will assist users of other RPG-based companies, such as some made by Wang Laboratories, Inc. and Hewlett-Packard Co.

A key component of DEC's migration assistance is a language compiler called Migration RPG, which automatically converts most System/36 and 38 RPG code into an RPG that is usable by a VAX. Migration RPG was developed by Native Software, Inc. in Richmond, Va., and is sold by that company as well as by DEC.

"You can load IBM software on a VAX," claims Bruce Claremont, who is in charge of migration products at Native Software. The compiler normally converts all but a small percentage of code, which must be ported manually, he says. Claremont points out that while Native Software charges fixed prices for Migration RPG and software tools that work with it, DEC uses a tiered pricing structure, which increases the program's price with the processor it is sold to run on.

DEC's on-site help comes in many combinations, ranging from a few hours of instruction to days and months of service from a full-time software resident, Patterson says.

Those who want to perform the conversion themselves may partake of DEC's Migration Assistance Service, which provides the user with migration tools, documentation and access to a 24-hour, seven-day-a-week hot line for support.

During a migration, seemingly minor details can take on greater importance, especially if a ready answer cannot be found. You might key in "Catalog" as an IBM term — when you need to key in "Dictionary" in the DEC world. "Often, it's just terminology. You just need to have someone there who knows the terms," says Don House of DEC's migration program.

STANLEY GIBSON

## STEPPING OUT

CONTINUED FROM PAGE 21

IBM discussed the decision with Wolfe's boss. However, Wolfe says he and his boss were in harmony. "They [IBM] were not nasty, but they couldn't believe we would seriously consider anyone besides them," he says.

In July, Atlas Powder put in a VAX 8700 and three Microvaxes, with plans to add a VAX 8350 at a later date. In addition, the firm will use some 150 VT 220 terminals and Vaxmate personal computers. The entire conversion process will take one year to complete, according to Wolfe.

### Changing needs

Valassis Inserts, Inc. in Livonia Hills, Mich., was a "real high-growth company," according to Vice-President of MIS Jerry Rode. A maker of glossy advertising inserts for 400 newspapers in the U.S., the company's growth and changing needs had forced three conversions in the four years preceding 1984.

Rode was hired at that time to point data processing in a single direction. "They didn't want to keep spending money on incompatible systems and applications," Rode says.

Now 15 years old, Valassis Inserts has grown at an average annual rate of 35% to become the largest advertising insert company in the U.S., Rode says. Earlier this year, the firm was acquired by Consolidated Press Holdings in Sydney, Australia.

Valassis Inserts was using a System/38, which it had been running for two years but was no longer large enough to handle the business. Previously, the company had used a System/34 and, before that, Honeywell, Inc. equipment. Having already converted from RPG II to RPG III, the firm was facing a move to the 4300 world if it stayed with IBM. "It would have been a waste of time; conversions are nonproductive," Rode says.

Rode determined that the existing

software, like the hardware, was inadequate and would need to be rewritten. The software for the System/38 limited the number of pages that could be included in an insert. Now, the total can theoretically reach 999 pages, Rode says, although it is unlikely that quantity will ever be needed.

The hardware conversion started with one 11/760 in early 1984. Later, the machine was upgraded to an 11/785. Now, a VAXcluster, consisting of an 8650, an 8550, the 11/785 and an 11/750, is located at Valassis Inserts' Livonia Hills headquarters.

**"DEC used to be a little harder to sell to management than it is now. So MIS with DEC equipment had to defend its decision."**

WARREN WHITE  
MIS MANAGER, CANADA CEMENT  
LA FARGE LTD.

"The best thing about the clustering was that the system did not have to be taken down in order to add a processor," Rode says. The same is true of adding storage devices.

The cluster is used to keep track of all aspects of the business, including printing press operation and inventory of such supplies as ink and paper. It is also used for company accounting and coordinating advertiser bookings with available ad space.

In addition, the company uses several Chromatics, Inc. 19-in. color graphics terminals for creating the glossy ads. The terminals are connected to the VAXs, which provide the necessary processing power.

Valassis Inserts also uses 52 IBM Personal Computers, half of which are con-

nected to Ethernet, Rode says. But the PCs are being phased out. "They have served their purpose. We now have the bulk of our information on the Vaxcluster," Rode says. "All spreadsheets are to be done on a VAX," he adds.

The plan is to reduce increasing use of a program for VAXs similar to Lotus Development Corp.'s 1-2-3, sold by Access Technology, Inc. in Natick, Mass.

The growth of Valassis Inserts and its consequent move to DEC computers have also caused a change in DP staffing. Previously, the company used contractors and consultants exclusively; the firm now employs an in-house staff of 34.

Valassis Inserts recently bought another company in the same line of business, Connection Insert Co. The plan is to sell the Connecticut firm's Wang Laboratories, Inc. VS 100 and combine data processing operations by connecting the new company to the cluster at Michigan headquarters.

### No turning back

While DEC users who have left IBM set out on their new path with optimism, they are, in many cases, just settling out. Their long-term satisfaction will not be known until a few years from now. But others who have been with DEC for several years show no inclination to turn back, having, in many cases, worked hard to sell their decision to a skeptical management that had grown accustomed to IBM.

"DEC used to be a little harder to sell to management than it is now. So MIS with DEC equipment had to defend its decision," says Canada Cement's White, explaining why he believes DEC converts are often among the most firmly committed users.

But there is no question that DEC will increasingly be a target of IBM and that Big Blue's sales representatives will cling with increased tenacity to customers who appear to sway toward DEC. The result for the customer is ideal: greater choice, with vendors doing their utmost to win them over.

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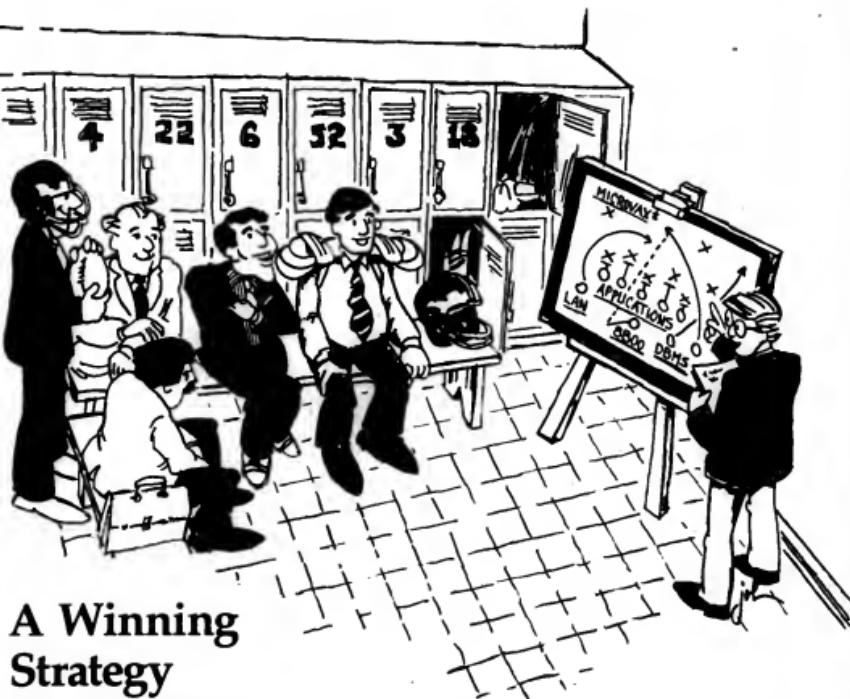
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# FLYING HIGH IN THIRD-PARTY SOFTWARE

*More than a hundred vendors drawn  
to DEC's cooperative marketing program*

BY BOB RANDOLPH

**T**he warrior, in accordance with his aims, maintains various weapons and knows their characteristics and uses them well." This quote, from *The Book of Five Rings* by Miyamoto Musashi, is an excellent summary of DEC's deployment of application software as a strategic weapon in the continuing marketing warfare raging in the medium-scale computer market.

DEC has taken a strong position by making the availability of application software a key facet of its marketing thrust. Having decided that vertical markets are the high ground, DEC laid out a strategic course that maps the needed applications into the firm's chosen vertical market spaces.

Randolph is director of the DEC Advisory Service at International Data Corp., a market research firm in Framingham, Mass.

Unwilling to depend solely on the limited set of horizontal applications that it has developed and will be developing over time, DEC has launched a major offensive to provide the needed applications using an array of alliances with independent software suppliers.

The following connections illustrate DEC's desire to expand its software base.

The simplest form of these third-party pacts is the reference agreement. In this, DEC publishes the application vendor's name and contact information in an applications catalog that it gives to prospective customers to let them choose an application vendor. This connection is strictly arm's length.

The other types of  
*Continued on next page*



BART GOLDBEH

## FLYING HIGH

FROM PREVIOUS PAGE

agreements for third-party software involve a contractual agreement between DEC and the application vendor. These can range from a simple agreement to buy and resell DEC hardware (OEM connections) to much more complex joint mar-

keting schemes.

In the OEM arena, the application supplier buys hardware from DEC, packages his solution software with the hardware and resells the complete system to the end user. This approach has been DEC's preferred way of doing business, particularly in vertical markets that require the special expertise of an application vendor.

DEC is credited with starting the OEM business and has an advantage over most other computer suppliers that are trying to extract OEM-developed applications from a smaller OEM base than DEC's.

The OEM's contractual agreement with DEC involves only the hardware. The OEM is thus free to compete with DEC for certain sales or to focus his

energies on vertical markets where DEC has little or no involvement.

### 'Channel conflict'

As OEMs grew larger and the vertical markets became more attractive to DEC, the freedom to compete became a two-edged sword called "channel conflict." Competing for the same customer became increasingly disastrous

for both DEC and its OEMs.

As recently as last year, DEC's major OEMs were up in arms over what they perceived as encroachment of their markets. Many established relationships with other computer vendors that had some solution to the channel conflict problem. Partially because of this threatened wholesale defection and partly because of the classification of its marketing strategy, DEC decided to join them rather than fight them. Thus the Systems Cooperative Marketing Program (SCMP) was born.

The SCMP agreement is really an extension of the OEM agreement with a built-in way of alleviating channel conflict. The SCMP becomes a partner with DEC in the joint-marketing, joint-selling sense. Like the OEM, the SCMP packages hardware and application software together. In this relationship, the SCMP's sales force works with DEC's sales force in qualifying potential customers and providing detailed technical information on the SCMP's product. Channel conflict is a nonissue in this relationship because DEC's sales force is given partial credit (as much as 90%) for the hardware sale.

This sharing of credit provides added incentive for the DEC sales representative to help close the sale. DEC is actively turning OEMs into SCMPs, and so far there are approximately 30 SCMPs providing solutions across the array of DEC's targeted vertical markets such as health care, banking and manufacturing.

**The CMP relationship**  
The Cooperative Marketing Program (CMP) is another joint marketing scheme. Unlike the OEM or SCMP, the CMPs do not package hardware with their solution. They are strictly software providers. Joint selling of the application is also a fundamental part of the form of agreement. There are about 100 CMPs providing applications across DEC's targeted vertical markets.

The key benefits of the CMP relationship with DEC include:

- The prequalification. If a vendor is a certified CMP, it will be called in by DEC sales reps at the front end of the selling cycle, especially in the Fortune 1,000.

*Continued on page 29*

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## FLYING HIGH

CONTINUED FROM PAGE 26

accounts where DEC is active.

\* Press announcement on a nondisclosure basis of upcoming DEC hardware changes and future directions of the product line.

\* Application software tested on DEC machines before the official customer ship dates to insure that the application will run.

\* The ability to use DEC's Application Centers for Technology (ACT) as a demonstration site for many of the applications.

How does a company become an SCMP or a CMP? The consensus of the application vendors seems to be, "It ain't easy."

Establishing an SCMP or a CMP agreement can take nine to 18 months, depending on whether DEC is the initiator, and thus presents a clear path to the necessary approvals, or the application vendor is the initiator, and the contact points and the path to approval may not be so clear.

DEC, which selectively looks for the most marketable and applicable products

\*\*\*\*\*  
*HOW does a company become an SCMP or a CMP? The consensus of the application vendors seems to be, "It ain't easy."*  
\*\*\*\*\*

for a particular industry, takes the prospective SCMP or CMP through a series of evaluation steps that assess the applicant's business, the marketing success of the application product and the technical merits of the product.

The business review includes an evaluation of the financial strength of the application vendor as well as their business plan. The marketing audit looks at how well the product has sold and what the customers think of the product.

### Cast fate with DEC

Cincom Systems, Inc., a Cincinnati-based software company, decided two years ago to cast its fate with DEC by signing a CMP agreement. With \$101 million in revenue, Cincom is one of the largest privately held software companies in the U.S.

According to Peter Barrin, an analyst at International Data Corp. in Framingham, Mass., "Cincom was one of the few independent mainframe data base management system vendors that wisely foresaw the emergence of the mid-range system as an application-delivery vehicle."

Cincom signed an agreement with DEC that brings Cincom's application-development environment software Maxia and Ultra as well Control Manufacturing and Control Financial — a manufacturing resource planning (MRP) system — under DEC's CMP umbrella. Bill Dorece, Cincom's vice-president of strategic alliances, says "the relationship has been extremely successful."

One example of this success was the joint effort between Cincom and DEC that resulted in the replacement of an IBM 4300-class system at a large company in the Dallas area. The DEC-Cincom solu-

tion consisted of a VAX 8700 and some Microvax IIs networked together to provide the customer with the horsepower to use Cincom's MRP system, Control Manufacturing. The sale for DEC meant \$2 million, \$500,000 of which went to Cincom.

Access to DEC's ACTs provided the CMP with a very powerful showcase for his application software. According to French, "the best sites come when the customer works with the ACT." DEC has opened 17 of these special "mini-Dec-worlds" in strategic locations across the country (see story page 57).

The key to the success of the CMP effort is that DEC's corporate management understands the criticality of applications software to the firm's success. As other

computer systems vendors go out to the independent software vendors to form alliances with third-party application suppliers, they will have to compete with the de facto standards that DEC has set in dealing with its application suppliers.

### A commanding lead

DEC's all-out effort to win the hearts and minds of the independent software vendors seems to be paying off. At this juncture, the firm has a commanding lead over other hardware vendors that are beating the bushes to find applications software. So far, DEC's evaluation process for becoming an SCMP or a CMP appears to favor the entrenched, well-established software firms. Certainly, exceptions will be made, but the perception in the inde-

pendent software community is what DEC must be concerned about.

In the future, DEC must also position itself as the champion of the smaller, less established firms or give up the innovation that these folks usually bring to the party.

This move will be especially important for DEC as IBM launches its applications judgement. Given the recognized strategic criticality of applications software, DEC will have to run very hard and very fast to stay ahead of the competitive pack. In addition, some fine-tuning of the SCMP and CMP programs will have to be done. This could perhaps take the form of training or other incentives to have the sales force uniformly embracing the SCMP and CMP programs.



# DEC OF ALL TRADES

*In order to double its size, DEC is trying  
to be all things to all vertical markets*

**T**he 2-year-old strategy to sell its products along vertical-market lines was supposed to double DEC's market share, according to Robert Hughes, vice-president of industry services marketing. Having saturated the scientific and engineering communities, DEC turned to the vertical approach as a way to familiarize other industries with its architecture and its way of thinking — and to win new converts.

DEC is finding that the vertical-market strategy helps the firm sell at higher levels within an organization, instead of just peddling the technical solution to MIS. As Kent Olsen says, "MIS is not the group that knows the most about how a company runs. . . . The MIS director does not know anything about manufacturing or laboratories or engineering of the office."

DEC divided all businesses into 60 industries and broke them into three sectors — government, services and basic industries. Sectors are subdivided into groups

such as media, financial services or utilities, with staff members associated with a specific group. The more prominent industries are reflected in many of DEC's most visible marketing efforts: the Application Centers for Technology, the Decworld conference and exhibits at vertical-market trade shows, to name a few.

The industry structure is not the only way marketing is organized. DEC also sells according to applications, geography, product lines and distribution channels. But the approach is one that DEC hopes will raise prospects' awareness of its strengths in networking, departmental computing and distributed processing.

DEC's market penetration and software portfolio are clearly much stronger in some markets than others. Engineering, manufacturing, finance and health care all boast healthy "support. Utilities, transportation, food processing, agriculture and construction are all much more sparsely represented.

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HEALTH CARE



FOOD & BEVERAGE



FINANCIAL SERVICES



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EDUCATION



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DEC compatibility	Standard
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Parallel port	Standard
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RS-422 port	Standard
RS-449 port	Standard
RS-530 port	Standard
RS-531 port	Standard
RS-532 port	Standard
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# HALE AND HEARTY IN MEDICAL FIELD

## HEALTH CARE

BY ROBERT MOSKOWITZ

DEC has been involved in the health care market for most of the company's life—25-plus years. Early efforts concentrated on selling processors to medical equipment manufacturers, which embedded them as controllers in their specialized medical equipment. This penetration helped DEC build a very large installed base within the clinical imaging areas, such as radiology, computerized tomogra-

phy scanners and magnetic resonance imaging.

"DEC is the No. 2 company in health, a very important market and a growth area for them," says Sheldon Dorenfest, president of Sheldon I. Dorenfest & Associates Ltd., a Northbrook, Ill., health care management consulting firm. "Their processors support some of the leading software vendors, such as Shared Medical Systems, Inc., Cerner Corp. and McDonnell Douglas Physicians Systems Co."

Dorenfest's surveys of 3,100 U.S. hospitals reveal that DEC computers make up about 14% of the current installed base

in hospitals with more than 100 beds and that DEC is strongly represented in these institutions' acquisition plans.

Dorenfest further estimates that DEC's annual hardware sales are about \$175 million in the confederal care hospitals, 5,800 short-term acute care hospitals alone, which together spend about \$1.7 billion annually on hardware. Thus, DEC sales work out to more than 10% of the market's hardware purchases and about 5% of the overall health care market.

According to Avia Schutman, manager of strategic planning for DEC's Healthcare Group, the company is the largest

supplier of processors in the clinical area and second largest in the overall health care market; IBM is the largest.

Schutman says DEC is actively expanding on its base of OEMs by working with them to develop linkless X-rays and other advanced medical techniques. DEC is also pushing into the health care information systems area, which she says is now receiving at least equal concentration in the company's marketing efforts.

As a result, DEC processors are becoming a significant force in the health maintenance organization and hospital management market. Some very large organizations, such as Maxicare Health Plans, Inc., in Hawthorne, Calif., have chosen to develop their administrative and information systems on DEC processors.

### Market broadening

Major reasons for DEC's growth in this market include the premium now placed on networking and flexibility in this rapidly changing business environment. Many health care providers are no longer just hospitals: They maintain sites in many cit-



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Circle Reader Service Number 26

**MAJOR reasons for DEC's growth in the health care market include the premium now placed on networking and flexibility in this rapidly changing business environment.**

ies and offer a variety of services, with specific departments like laboratory, pharmacy and radiology that need local processing as well as wide-area links to headquarters and other institutions.

The industry is also labor-intensive, with three shifts a day monitoring patients' changing conditions. Good coordination requires good communication between these workers and their management.

In addition, hospitals and other institutions with processors from many different vendors are experiencing communications problems that DEC claims it can simplify with its multi-vendor communications capabilities.

DEC's strategy is not only to provide products that can link the entire enterprise but also to automate individual departments. Some of the software for these departmental solutions comes from DEC, such as All-In-1, electronic mail and Decrad, DEC's radiology system. Others come from OEMs, such as the laboratory management systems from Sunquest Information Systems, Inc. in Tucson, Ariz., and Cerner, located in Kansas City, Mo.

### Computer analysis of EKGs

One company with a creative joint solution is Telemed, a Chicago-based service bureau division of LDG Capital Corp. that reads and reports on electrocardiograms, or EKGs, to the hospitals where they originated. While most EKGs are read by doctors, the Telemed system provides computer analysis of 40,000 EKGs a month and supplies a printed analysis of each one within 10 minutes.

The innovative technology includes a transmitting cart made by Teledem, to which the patient is hooked up at a hospital or clinic. The cart provides a traditional three-channel, 12-lead EKG tape. But the data is also transmitted over telephone lines to a firm's DEC computers.

According to Jerry Toman, Teledem's operations manager, the company's seven DEC PDP-11/34s and two KL-10s — CPU units from the Decsystem/10 — are connected over a Decnet system. The PDP-11s receive the data over dial-up telephone lines, converting the analog signals to digital as they arrive. The digitized data goes to a concentrator that moves the information along to one of the KL-10s for processing.

When the report on an EKG is ready, another PDP-11/34 sends it back over telephone lines to the originating hospital. Throughout the process, EKG data and its location information must always stay together. One PDP-11/34 is used primarily for development work and back-up for the others.

Another common application for DEC processors can be found at the Community Hospital of Indianapolis, a 798-bed, nonprofit health care complex. According to Martha Roth, assistant director of laboratory services, the hospital's two clustered 11/785s are central to the laboratory's wide spectrum of cultures, blood counts, urinalyses, blood gas counts, chemical measurements, pathology and other testing and reporting operations.

The DEC systems run Clinical Laboratory Software from Cerner. The package manages every test from the time it is ordered until results are printed out. Many of the laboratory's instruments are completely automated and interface directly with the computers, so results are reported with no human intervention.

The automated laboratory management process begins when a nurse orders a patient test from a Tandem Computers, Inc. machine at a nursing station. The order goes, along with patient information from the Tandem's data base, to the DEC computers at the lab, which then schedule the necessary tests and later accept keyboard or automated input on their results.

Test results and laboratory charges are communicated back to the Tandem computer at the nursing station, where the results are printed out and the charges are sent on to the hospital's Hewlett-Packard Co. billing system.

According to Roth, DEC processors were picked because they are capable of far more volume than the only other hardware running the desired laboratory management software: Texas Instruments, Inc.'s. "Cerner selected DEC for its application back in 1984," she says, "when we expressed interest in their software but wanted more powerful computers. We were actually the first site where the Cerner software was installed on DEC systems."

#### World's largest

At Baptist Memorial Hospital in Memphis, dozens of VAXes and other DEC processors support the world's largest private hospital, which boasts 2,068 beds. Owned by the Southern Baptist Conventions of Arkansas, Tennessee and Mississippi, the enterprise includes 10 corporate hospitals within 150 miles of the hub, numerous affiliated hospitals and dozens of other ventures, including a home health care service, a foundation, minor medical centers, a surgical supply company, a pri-

*"THE DEC system has allowed us to add computers incrementally. You just can't go out and buy or write all the packages in a system like ours. It has to be built a step at a time over 10 years."*

JOHN BEDINGFIELD  
DIRECTOR OF INFORMATION SYSTEMS, BAPTIST MEMORIAL HOSPITAL

ivate duty nursing service, pathology lab and a helicopter service.

"The computers at the main hospital are a systemwide resource," says John Bedingfield, director of information systems. "Every one of the organizations uses them to some extent, and most get

all their data processing from them."

Baptist Memorial's 28 PDP-11/70s, six PDP-11/44s, one VAX 8600, one 8650 and three 8700s run a variety of applications written in-house for the different hospital departments, including patient registration, payroll, pharmacy,

radiology, laboratory and others.

Baptist, an IBM shop about 12 years ago, was one of the first hospitals to computerize. The hospital decided on a mini-computer strategy and chose the PDP-11/70s. Although the organization experimented with vendor-written applications, system administrators were not satisfied and began to develop applications in-house.

"The DEC system has allowed us to add computers incrementally," Bedingfield says. "You just can't go out and buy or write all the packages in a system like ours. It has to be built a step at a time over 10 years, the way we have done it."

Meekowitz is a business consultant based in Woodland Hills, Calif.

MTI

# HELPING MAKE THE WORLD GO 'ROUND

## FINANCIAL SERVICES

BY ALAN RADDING

Typically, financial institutions run some of the most high-powered and sophisticated mainframe-based DP applications in the country. So moving ahead means automating other areas of the organization — field offices, customer-service departments, account representatives and so on.

Computer industry analyst Stephen Smith of Paine Webber in New York says,

"The new direction in the financial services industry is automating traders and line people" — to the benefit of companies like DEC.

In fact, DEC is staking out a major position in this market by emphasizing what it calls mission-critical systems, which it defines as systems that actually do the work rather than simply account for it after the fact.

**Mountain comes to Muhammed**  
DEC is not "doing anything unique," Smith says, but he adds that the changes occurring in the financial-services indus-

try are "playing into DEC's strengths" — mid-range systems, the single VAX architecture, effective networking capability and links with computers from other manufacturers, particularly computers from IBM.

"It's not practical to think we will displace the [IBM] mainframe" at customers' sites, says Claude "Sandy" Thomas, director of DEC's Financial Industry Marketing Group and a former financial services industry executive.

Instead, DEC's strategy is to leverage the customer's existing equipment by providing systems that fill in the gaps in

automation and expand the functions of all the systems.

Peer-to-peer networking is the heart of DEC's approach to the financial services industry. This approach best capitalizes on DEC's networking and connectivity offerings. For example, Baltimore-based Commercial Credit Co. recently decided to replace its wide-ranging collection of stand-alone office machines with an integrated DEC system.

"The connectivity sold us," says Ed Hackle, Commercial Credit's director of operations. "We have hubs in several cities and a mainframe. DEC says they can integrate it all together, and we're confident they can produce."

### All-channel strategy

To penetrate the financial industry and inspire confidence, DEC established Thomas's Financial Industry Marketing Group. The company brought in people like Thomas, "who have sat in the same chair" that the prospects sit in and so understand potential customers' business. To further bolster its efforts, DEC increases its direct sales force to this vertical market by 30%.

With experienced marketers in place, DEC is pursuing not only the top players in the industry but also the rank and file

**DEC's strategy is to leverage the customer's existing equipment by providing systems that fill in the gaps in automation and expand the functions of all the systems.**



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industry. It is doing this through an all-channel strategy that includes selling direct to large accounts and turning to value-added resellers to handle the smaller accounts.

DEC is not relying on third parties, however, to carry the DEC message on their own. Instead, Thomas has initiated joint selling with third-party vendors. "Instead of just DEC or the third party going in to sell the prospect, we go in jointly," he says.

The company's biggest success to date has been at Citicorp, which is automating its line management and service operations with a DEC system.

At many other financial industries, DEC has merely gotten its foot in the door, usually through office automation. One such customer is the Chicago Mercantile Exchange, the second largest futures-trading exchange in the world. It uses computer systems in three major areas.

Its trading floor setup uses an IBM system, although the organization is converting to a Tandem Computers, Inc. system this fall. For clearing trades, the organization relies on an IBM system.

Finally, there is the organization's office automation area, where the Exchange decided to test the DEC concept, explains Patrick Hynes, director of clearing division planning.

The pilot project was designed to replace the profusion of stand-alone

machines — IBM Displaywriters, Harris/Lanier machines and IBM Personal Computers — in the offices of the Exchange's departments. An electronic mail system would replace the "sneaker-net" messenger system already being used.

In the end, proposals came down to DEC or Wang Laboratories, Inc., and DEC won on the basis of connectivity issues and the Exchange's confidence in the company. Hardware for the pilot program consists of two DEC Microvax IIs in a local-area Vaxcluster and 23 workstations attached to an Ethernet local-area network.

"We need lots of horsepower, we can add a high-end VAX," Hynes says.

The pilot program concluded successfully this summer, and Hynes says he is confident that everything works as promised, despite sitting precariously on "the bleeding edge of technology" with the peer-to-peer networking.

#### Second wave of PCs

DEC's communications capabilities are getting another test at Provident Mutual Life Insurance Co. of Philadelphia. A pilot-office automation project is under way involving Provident Mutual's human resources and financial-control departments. "We wanted to run the pilot in departments with high communications needs," says Joann Miller, assistant director of information services planning.

Provident Mutual runs a large IBM mainframe and approximately 120 stand-alone personal computers in the home office. About 70% of the PCs are already equipped with emulator boards to allow them to interface with the mainframe. "We had come off the first wave of PCs. We had all the heavy-duty desktop power we needed," Miller says.

The company was experiencing a second wave of PCs that were being used for casual work, such as light word processing and light data base or spreadsheet work, when it came to the conclusion that by using a VME-based system, it could provide workstations to handle the light PC use and provide access to the mainframe at a lower cost than installing increasing numbers of full-blown PCs, Miller reports. The heavy PC users would have a choice to continue on their own or join the system.

Miller looked to IBM, Data General Corp. and DEC for proposals. IBM was eliminated because Provident Mutual did not consider the System/36 a long-term option and did not want a VM-based system like IBM's Professional Office System.

Miller says she believed the DG CEO system was as good as DEC's All-In-1, but she was more comfortable with DEC's experience in networking and was concerned about DG's long-term prospects.

Provident Mutual decided on the VAX 8200, approximately 40 DEC VT220 and VT240 terminals, an IBM Systems Network Architecture gateway and three laser printers. IBM, however, is not accepting defeat. "They are constantly working on us, dangling the 9370 in front of us and questioning our wisdom of going with DEC," Miller says.

#### Target systems

But can these office automation systems — albeit integrated — be described as mission-critical?

"The more complex services and the broader array of products there are, the more information [as needed by] the per-

.....  
**"THEY are constantly working on us, dangling the 9370 in front of us and questioning our wisdom of going with DEC."**

JOANN MILLER  
ASSISTANT DIRECTOR OF INFORMATION SERVICES PLANNING  
PROVIDENT MUTUAL LIFE INSURANCE CO.

servative," Smith says.

Stephen Barry, financial industry specialist at Price Waterhouse in Baltimore, agrees that the ratio of approximately 4-to-1 is right on target. "The rate of growth will be substantially higher than for host processors," he notes.

Among the developments DEC has targeted for the financial services industry are a variation of compact disk/read-only memory with the ability to write, read and modify; image-transfer technology; and expert systems applied throughout the industry, from customer sales to the capital markets for applications such as hedging strategies.

Rating is a Boston-based author specializing in business and technology.

"And those figures are probably con-

.....

son representing them to a customer," DEC's Thomas says.

The key, according to this line of thinking, is the delivery of information to the point of the company's contact with its customers. Anything that speeds or enhances that delivery contributes to the organization's mission.

According to Thomas, sales of these kinds of mission-critical systems to the financial services industry will grow by 20% or more a year during the next few years, while sales of corporate computing systems to the same industry will grow by only 6%.

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# EXCELLING IN THE ACADEMIC WORLD

## EDUCATION

BY ROBERT MOSKOWITZ

The educational market is probably DEC's strongest. Universities and other research-oriented institutions use DEC processors and networking systems extensively for data gathering, statistical analysis, computer science department projects and student support systems, as well as for elements of a backbone network reaching from local campuses all the way to the nation's publicly funded super-

computer centers.

"Based on their track record — their ability to deliver facilities to meet university demands — DEC has a very good reputation in this market," says Shawn Hernandez, assistant vice-president for computer services at California State University in Hayward.

One reason for the widespread acceptance may be that DEC computers were among the first sold aggressively into this market, according to Sheila Osmundsen, editor of "Monsoon on DEC," a Boston-based newsletter.

Osmundsen points out that more than

a decade ago, the DEC VAX was already considered an advanced 32-bit system and that during the mid-1970s, the University of California at Berkeley's Unix 4.2 operating system was invented almost exclusively for the VAX by researchers at the school.

Unix 4.2 gave the VAX virtual memory and demand-paging — two memory-management techniques that were required for the large research processing jobs of the day — as well as the Transmission Control Protocol/Internet Protocol (TCP/IP) networking protocol suite, which is used for communications be-

tween dissimilar processors.

DEC leveraged its early popularity among users in this market by making investment grants that placed DEC hardware in dozens of prominent and well-respected universities and research institutions.

Through the years, researchers were often unwilling — unable to work with the batch-oriented IBM systems used by university administrators, so they were eager to obtain the more flexible and easier-to-learn DEC systems for their projects.

### Five-to-one edge

Bob Trocchi, DEC's group manager for educational and state and local government marketing in Marlboro, Mass., cites an annual directory of major computing facilities at every level of campus that is published by Charles Wallach at the University of Texas. Trocchi says the publication shows that 68% of the systems now installed are from DEC, which represents nearly a 5-to-1 edge over IBM, DEC's biggest rival in this market.

**"WE tried IBMs, but found people wouldn't use them."**

ALEX RAMIREZ  
USER SERVICES MANAGER  
UNIVERSITY OF CALIFORNIA  
AT RIVERSIDE

"Since 1978-1979," Trocchi says, "when Wallach's studies showed we were clearly behind IBM, we have moved clearly ahead, and the trend continues in our favor." About seven new Decnet nodes go on-line every day of the year at U.S. campuses, Trocchi claims.

This penetration has been significant for the company, according to Sandy Gant, director of the small Systems Service at market research firm Infocorp in Cupertino, Calif. She says DEC's focus appears to be feeding technology into the universities in order to get sales in other markets later.

"The use of DEC computers in these settings has been instrumental in helping the company make sales to students after they graduate and find jobs in industry," Gant says.

One selling for universities can be DEC's fairly inexorable pricing. According to Hernandez, "There's a lot of potential to use the DEC system in educational organizations. But the bid process in this state is very specific."

He says that in his state university system — as in many others — the contract goes to the lowest bidder that meets the requirements — no ifs, ands or buts.

In many cases, even if the systems department prefers DEC equipment, other vendors can underbid the company. "We did a procurement about 2½ years ago, but DEC was not the low bidder," Hernandez says.

### Two dozen DEC hosts

At the Information Center of the University of California at Riverside, use of DEC machines began by the late 1970s, according to Werner Schmidt, manager of systems.

Today, there are more than two dozen DEC hosts, including a Vaxcluster 8700, a VAX-11/785, two VAX-11/388

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VAX-11/750s, 15 or 20 Microvax IIs and three new Vaxstation 2000s, which will be used in a local cluster to administer the network. The DEC equipment is used for academic purposes, such as faculty and student research, as well as for class-related accounts.

The DEC systems communicate over Ethernet using Decnet and TCP/IP protocols. TCP/IP is necessary because four of the processors use the Unix operating system.

"We have the DEC hardware because of the connectivity, the networking solutions and the ability to run the same DEC VMS applications on every processor from the small ones to high end," Schmidt says. "Users can easily share data over the network, and even if one machine goes down, they can just walk to another and still access their data."

"The networking clusters are also very good for me, the network manager," he continues. "They permit one copy of the operating system to be used by many computers, greatly simplifying updates and maintenance."

#### Scientific computing resources

According to Alex Ramirez, user services manager at the Riverside campus, the computers are most heavily used by social scientists for statistical analysis of research data and for graphics routines. The school also maintains historical data bases, including various political and personal data bases.

Until recently, Riverside's biochemical researchers made heavy demands on the network's resources for their molecular modeling routines. A single computer run could absorb 10 to 15 days of computer time to optimize the design of just one molecule. Today, most of the research of this nature is sent to a supercomputer center in San Diego over a 56K bit/sec. line.

A member of the consortium that supports the supercomputer center, Riverside could not afford to build a standard remote users access center, which requires a dedicated VAX and other hardware.

Instead, Ramirez says the campus decided to install the relatively low-cost cabling and software necessary to become a node on an existing Decnet network — a solution made possible by the VAX's support for Cray Research, Inc. supercomputers.

Operating a small campus with just 5,000 to 6,000 students, administrators at Riverside say they like DEC processors because the machines provide the faculty with a lot of computer power.

"We tried IBMs, but found people wouldn't use them," Ramirez says. "There is also a lot more software for the VAX, including SAS Institute, Inc.'s SAS 5.16," the latest version of that popular statistical package, not yet available for IBM.

#### Distributed system plans

A showcase installation is the new administrative computing system at the University of Houston, which already runs 28 mainframes, more than 2,400 personal computers and several DEC networks that are used for research and experimentation.

The new distributed information system, which is planned for completion in 1990, is intended to provide interactive computers to university administrators located at all four campuses of the 40,000-

*"THE networking clusters are also very good for me, the network manager. They permit one copy of the operating system to be used by many computers, greatly simplifying updates and maintenance."*

MANAGER OF SYSTEMS, UNIVERSITY OF CALIFORNIA AT RIVERSIDE

WERNER SCHMIDT

student institution.

One day, the information system will support more than 600 on-line users for both decentralized decision making and centralized coordination. The university says it plans to spend \$13.5 million for the system hardware, software, training and

development, while DEC is contributing grants for additional hardware.

"We decided that our new system should have advanced data base management capabilities, fourth-generation language, distributed processing and information and great hardware flexibility,"

says James W. Johnson, vice-president for computing at the university. "On balance, DEC was the clear choice for our needs, particularly with our comfort and familiarity with Digital."

Once installed, the VAX-based network will offer considerable remote-access capabilities, among them allowing professors to review student reports from their offices and students to register for classes using any Touch-Tone telephone. In addition, it will allow authorized administrators to review virtually any university budget or office account information, which will be as current as the latest keyboard entry.

Modewitz is a business consultant based in Woodland Hills, Calif.



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# CRACKERS AND CHABLIS LOOK GOOD

## FOOD & BEVERAGE

BY MICHAEL BALL

The subtlety of DEC's announced assault on the food and beverage industry may be wasted on its target customers. Only the vendor seems to know that this market has been strategic for nearly two years.

On the other hand, by these accounts and DEC's, food and drink processing companies are doing just what the strategy calls for: They are increasing equipment purchases in established depart-

ments and expanding VAX systems into other departments and even into corporate data processing.

"The food industry is beating up as a technical field," says John Gnitro, director of engineering for research and development at Kraft, Inc. in Glenview, Ill. "We've competed via marketing for a long time, and now more and more, we're doing it in technology."

**Hopes and dreams**  
Armed with some history, some hunches and an initial study, DEC saw this area as an important growth market, according

to Larry Greene, DEC's marketing director for food and beverage process industries. Not only was the market huge, but "we like the industry," Greene says. "It is less cyclical than most, and it doesn't move offshore."

Although DEC equipment has been installed in many large food processing operations for a decade or even longer, its presence has often been limited to the laboratories. Greene admits that being loved in engineering or manufacturing does not often translate into corporate or departmental acceptance.

Greene is quite optimistic about the

market for a variety of reasons. First, DEC can influence new customers by pointing to a solid history with food and beverage competitors. In addition, the industry has automated its DP at a fast rate, with many companies looking toward networking and distributed processing. "Our strengths match those of the industry," Greene says. "At the same time, many food companies are decentralizing, which fits well into our concept."

### Beyond R&D

None of DEC's customers, not even those following the expansion plan, seem aware they have been targeted. "It's news to me," says Ken Jendryka, director of applications at Kellogg Co. in Battle Creek, Mich.

A little more than a year ago, his development group expanded from a limited number of DEC PDPs to a VAX environment. He uses VAX 8600s and 8650s. "We have VAXs in all five cereal plants and the corporate office," Jendryka says. The production side uses VAX 8700s.

Kellogg is relatively decentralized and recently implemented a nationwide network to link its VAXs. Plants not only exchange data but also can access massive corporate maintenance and accounting

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**MANY** food and beverage companies pioneer their DP methods. As a result, many departments still have their own favorite vendors, even in this age of companywide computing.

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programs too large to reside on their systems.

Similarly, at Andrew Wines Ltd. in Winooski, Ontario, DP manager Hugh Barcley says his company has been a DEC user for about seven years and, without knowing it, has been following the new marketing strategy. Andrew Wines recently upgraded by adding a VAX 8200 to its original DEC 2000.

Also typical of the target companies in this industry, the wine producer writes much of its own software and chose DEC over IBM and Tandem Computers, Inc. for the much-advertised reasons. "We stay with the network," Barcley says. He adds that key selling points were modular expansion and easy portability within DEC's VMS environment.

Another, smaller company that exemplifies what DEC would like to see its bigger customers do is Bridge Brand Food Services in Calgary, Alberta. There, programmer Frank Ye says, "We converted to VAXs from a PDP about a year ago, and everything is now on a VAX — all invoices, all accounting."

As with many of the large companies, Bridge has been a longtime DEC customer — for about 10 years. It also grew from a single PDP-family computer and now uses a Vaxcluster.

### Playing favorites

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Unless many process industries and other manufacturing concerns, many food and beverage companies pioneer their DP

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methods. While they may use the same production and computing hardware, the software is often their own blend of canned and custom. As a result, many departments still have their own favorite vendors, even in this age of companywide computing.

Kraft, for example, is a DEC target because of its mixed environment. Although the labs have been DEC shops for about 15 years, "We are widely known as an IBM corporate culture," Gmitro says. He quips that when a DEC vice-president hates a sales representative, he assigns him the Kraft account.

In Gmitro's domain, however, a cluster of three VAXs serves 250 people with DEC VT240-class terminals and a dozen personal computers "all over the facility" via Ethernet, he says. These are used for new product testing but not for production plants. About one-third of data acquisition is automatic from the testing instruments.

About three years ago, the labs began integrating their various functions and added a third VAX to the cluster for the task. Different types of users see menus peculiar to their business, allowing them instant access to the pertinent parts of the data base.

Likewise, "about 50% of our software is internally developed," Gmitro says, "and our users don't know when they are using it or others."

#### No. 1 focus

Whether Kraft as a company, or its individual departments, switches to VAXs remains to be seen. Meanwhile, Gmitro's labs are a devoted microcosm of the DEC user community. They have used DEC hardware "from the very beginning," he says, largely because it was considered the only equipment that would meet lab demands.

Specifically, the labs use many instruments from such vendors as Hewlett-Packard and IBM. "These come with their own CPU and embedded hardware and software," Gmitro says. "It is extremely difficult to interface with them in an IBM environment and easy to do so with DEC."

Kraft's R&D labs "have recently expanded activities in corporate applications considerably," Gmitro says. "We've gone from the technical function into a full-blown project management system." Using DEC's All-in-1 office automation software as a base, they kept the scientific programs and wrote a data base and project management act over it.

#### Getting in the door

Gmitro and the other customers all note that DEC initially faced strong competition during their purchase-decision processes. They also say DEC will be up against similar hard sells even in areas in which the vendor is well established in the labs.

For example, at Kellogg, "We always consider other vendors," Jendryka says. However, he adds, DEC's strengths in certain applications quickly become apparent during vendor selection. "For the plant environment in our industry, DEC was a natural."

Kraft had a similar experience, but Gmitro admits that his people were extremely demanding up front. "All purchases have to be approved by the corporate DP department, and DEC had to do a lot of selling," he says.

On one side, the company was using a

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**"THE FOOD industry is heating up as a technical field. We've competed via marketing for a long time, and now, more and more, we're doing it in technology."**

JOHN GMITRO  
DIRECTOR OF ENGINEERING FOR R&D  
KRAFT, INC.

Data General Corp. Comprehensive Electronic Office automation system. And on another, "There was strong internal pressure to throw out all DEC equipment and go with IBM," Gmitro says. "DEC had to show what they could do."

While Kraft now depends on 14 full-time employees for technical aid on DEC systems, it got a lot of help from DEC during the evaluation and selling period. Besides the predictable demonstrations to all concerned, DEC provided a leased line

and terminal, allowing engineers to use a wide variety of applicable hardware.

As a result of the nature of the products and the response, Kraft's R&D labs have gone from a few PDP-8s and PDP-11s to a wide variety of VAXes and terminals.

"We came to them with what we wanted to do, and they responded very quickly," Gmitro says. "Since then, they've really given us support whenever we've asked for it."

After a brief reflection, he adds that being such a huge company — and an IBM company at that — probably has something to do with the excellent response.

Ball is a free-lance writer based in Boston.

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# ON THE AIR: NEW MEDIA MARKETS

## THE MEDIA

BY ROSE MULA

DEC established a foothold in the newspaper marketplace 20 years ago with the Typeset 8 paper-tape system, which drove a hot-metal linotype machine.

In the past five to 10 years, the company has been making significant inroads into the commercial printing market, offering editorial production systems to book and magazine publishers, many of which had already been longtime users of

DEC business systems for their office applications.

Last year, DEC became a triple threat in the media marketplace by adding systems for radio and television broadcasting stations to its communications industry armada.

In keeping with its objective of supplying complete systems, DEC supplies the media marketplace with not only hardware but software also, some of which it develops internally and some of which it selects from third-party suppliers.

In the newspaper area, however, DEC is often a third-party hardware supplier it-

self, since many of its customers in this market come to the company through the back door — via Atex, Inc., a software vendor specializing in newspaper applications. Atex offers turnkey systems, many of which include DEC hardware, sometimes modified by Atex to suit a particular application.

**DEC steps in at The Globe**  
For example, *The Boston Globe*, a daily newspaper that boasts one of the largest DEC Vaxclusters in Boston, uses DEC computers almost exclusively for all of its business applications. But until now, DEC

itself has not played a role in the production of the newspaper. Instead, that function has been automated by a variety of Atex subsystems, running on hardware from several other suppliers.

This fall, DEC will become involved in automated production processes. The *Globe* has signed an agreement with Atex to serve as the test site for a VAX-based publication and production network. The VAX will serve as the central data base engine that will connect the various Atex systems, resulting in a network linking approximately 600 Atex terminals with more than 300 VAX terminals.

The *Globe* has said it anticipates completing its tests and entering a full VAX production mode by spring 1988.

### Value-added problems

Current publishing customers who use DEC equipment for production applications report a variety of experiences when it comes to DEC's service record.

The *Bergen Record*, northern New Jersey's largest evening paper, has been using a variety of DEC hardware for eight years: PDP-11/70s and PDP-11/84s to run its Crosfield classified advertisement software and PDP-11/34s as the foundation for its Atex editorial applications. In addition, the newspaper installed a Vaxcluster four years ago to handle its business functions and then upgraded it significantly last year.

"Any problems we've had with these systems have been minor," says Mel Kestensbaum, the newspaper's MIS director. "And, as a rule, they have been caused by the value-added features rather than the original DEC equipment."

The only time Kestensbaum deals directly with DEC is when his VAXs need service.

"Their response time wasn't very satisfactory at first," he says. "I think the trouble was that when DEC started out, most of their customers were engineering companies doing development work. If a problem wasn't fixed today, tomorrow was OK."

Kestensbaum notes that recently DEC has branched out to customers in other industries in which deadlines are more crucial — such as payroll or invoices that must be processed that day.

"DEC has been trying to emulate Big Blue, and they're beginning to realize that they can't enter the major leagues using minor league procedures. They have to learn to prioritize their service requests and respond accordingly," he says.

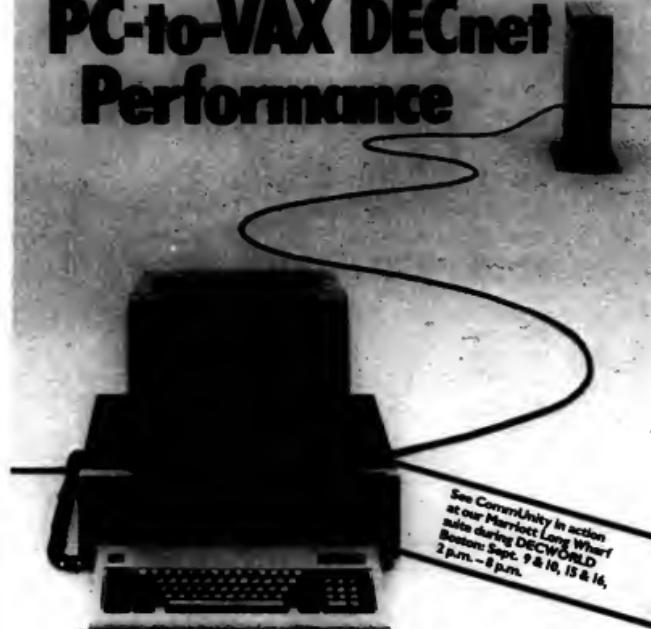
### Top-notch service

By contrast, Walter Antonell, vice-president of operations for Bantam Doubleday Dell Publications Group, Inc., reports a healthy service record. A 12-year DEC customer, Bantam recently upgraded to VAX 8850s — three in Chicago, three in New York — linked by a T1 line. The system handles all financial functions, including accounts payable and general ledger, but its major duty is on-line order processing in volumes of 200,000-plus orders per month.

"The best feature is the service we get from DEC," Antonell says. "If I have a real problem, I can go directly to Ken Olsen and get immediate results."

Does everyone have direct access to the man at the top? "I'm not sure," Antonell says. "I know him quite well because we had a prior business relationship when I used to be a vice-president for Citibank NA." Antonell says other reasons

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Circle Reader Service Number 34

Olsen is so accessible to him that DEC is very interested in the publishing industry and Bantam is a leader in that industry and a long-time DEC customer.

#### "Very appropriate"

Many media customers report that DEC's systems are particularly well-suited to their applications.

Thanos Triantaphyllou, Standard & Poor Corp.'s vice-president of systems planning and technology, is pleased with his company's recent VAX installation, which replaced some PDP-11/70s that dated back to the mid-1970s.

"It's very appropriate for editorial-type applications such as ours, involving small to medium-size data files where users keyboard information and then redistribute it in real time," Triantaphyllou says.

Standard & Poor's new system, composed of two VAX 8200s and an 8530, is used to produce the camera-ready copy for the firm's "Blue List," a daily market information publication. The software for this application was developed by an outside consulting firm, he reports. "The VAX also has the necessary upgrade potential," he adds.

United Press International, Inc. (UPI) is a brand-new DEC customer. According to Associate Editor Jeff Field, UPI recently signed a five-year, \$4.75 million contract under which DEC will update UPI's four current systems: A 600-user Sperry Univac 9080 news system with a central data base that transmits 27 million words of news daily worldwide; a system that provides daily stock listings to newspapers; a Hewlett-Packard Co. HP 3000 that handles UPI's data processing applications; and an Altos Computer Systems system used for customer orders and internal record keeping.

UPI issued a request for proposal about a year ago, to which several major vendors responded. What gave DEC the edge? "Thorough preparation," Field answers.

DEC showed "a real understanding of our requirements. A big plus is their software logic — the ability to combine the big, the small and the in-between and have it all work on the same operating system," Field adds. The hardware foundation of the system is a VAX/VMS cluster configuration.

#### DEC ON TV

DEC is also well represented in the broadcasting segment of the media marketplace. One of its major users in that area is British Columbia Television (BCTV) in Vancouver.

In his search for the right broadcast news system, News Director Cameron Bell went to several trade shows and consulted with several vendors that "were very polite but weren't in a big hurry to explore the possibilities," he reports. Eventually, Bell's search led him to Jim Leedham, chief of software at DEC's Vancouver office.

"Finally, here was someone who understood our problem," Bell says. Leedham steered BCTV to Sycom, Inc. — software developers in Boulder, Colo., that had written a DEC-based program for UPI, which Leedham felt could be adapted to BCTV's needs.

"This was January 1986," Bell says. "I told them, 'Great! Can you deliver it by May 1 so we can use it at the World Expo?'"

They laughed, he says, but somehow

"I THINK the trouble was that when DEC started out, most of their customers were engineering companies doing development work. If a problem wasn't fixed today, tomorrow was OK."

MEL KESTENBAUM  
MIS DIRECTOR, THE BERGEN RECORD

they met his deadline. "It wasn't a completed system, but it was enough to get us started. And DEC helped us get it up and running at Expo," Bell says. "I have great respect for anyone who can move a functioning newsroom with a staff of 90 into a fishbowl. They were extremely helpful."

One of the most critical dimensions of television programming, Bell says, is to plan how many seconds will be devoted to what items and the order in which they will be run.

"Just as magazine items are laid out according to space, our elements must con-

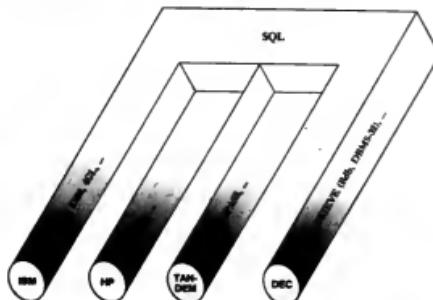
form to strict time limits," he says. "The program Sycom is developing for us will keep track of all these elements — give us an automatic line-up or rundown."

In addition, the system will serve as a data base for each story, providing the source of the information, who the reporter is and whether it will require any artwork.

Bell anticipates that over the next 10 years, BCTV will dream up some profound applications.

Will the television station's VAX system be able to handle those as well? "Hell yes," he says. "We don't even have it breathing hard yet."

Malia is a free-lance writer based in Waltham, Mass.



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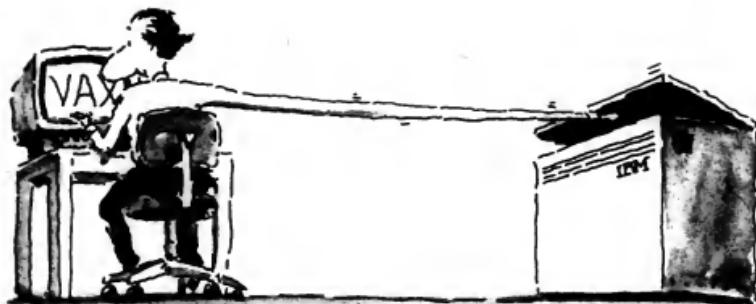
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Circle Reader Service Number 36

# WHAT COULD BRING DEC DOWN?

*Trouble may come in on-line transaction processing,  
Unix and data management*

BY MICHAEL MILLIKIN

**D**EC believes that it now is in a position to go toe to toe with IBM and begin to win control of the corporate network and data bases. IBM's hegemony, established with mainframes, is by no means unassailable, especially in a market beginning to place much greater value on distributed, networked, peer-to-peer architectures.

But DEC has gaps and weaknesses in its product line as well as in its operating assumptions. Currently, DEC's strengths are in control. The company is winning a great deal.

Some areas, however, if left unaddressed, could trouble DEC in years to come.

**Strategic assumptions.** DEC currently operates under the following four strategic business assumptions:

- Only DEC and IBM are capable of full-line design, manufacture and supply of complete information processing systems.
- DEC has superiority in networking, distributed computing, ease of development and ease of use.
- A multivendor environment is now a fact of business life.
- DEC should be the No. 1 or No. 2 vendor, in most cases, on buyers' shortlists.

Millikin is senior editor for Patricia Seybold's Office Computing Group in Boston.



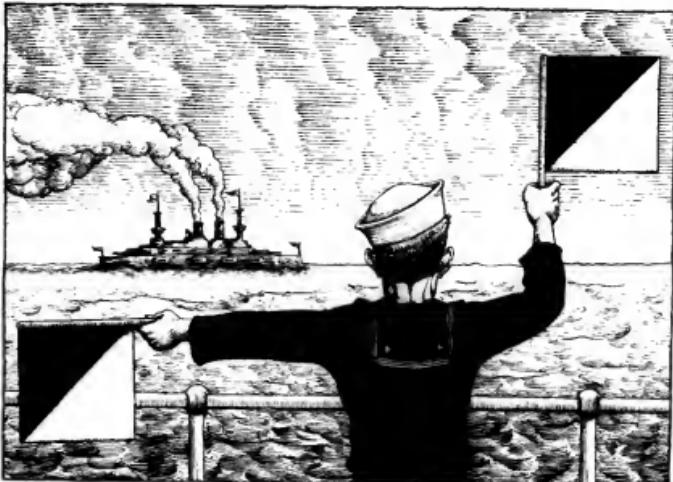
KAREN STOLPER

There shouldn't be much doubt about the validity of the last two assumptions. Some would dispute the first contention: that only DEC and IBM can offer a complete solution. Leaving aside the bickering that trying to define a "complete solution" can catalyze, one might question the wisdom of any company seeking to manufacture a complete product line by itself.

But it is the second contention, about

*Continued on page 49*

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## DEC DOWN?

FROM PAGE 47

the nature of DEC's superiority, that leads to questions of its possible weaknesses.

That DEC is very strong in networked systems is clear. That such superiority is sufficient to guarantee the company a leading spot in the industry is not. DEC can claim a solid architectural foundation on which it is building hard and fast. No matter how good the foundation, however, the superstructure has to hold together.

**The corporate network.** When it comes to networking, DEC has declared itself ready to eat not only IBM's lunch but its dinner as well. When possible, DEC plans to compete with IBM for ownership of the corporate network.

DEC's main advantage comes from having an established peer-to-peer network architecture, while IBM is still releasing products that will provide comparable capabilities. DEC's potential weakness comes from underestimating IBM.

Upcoming IBM products are extremely slick. The company is committed to providing a distributed, peer-to-peer System Network Architecture that is easy to install, maintain and use. Unless a buyer immediately needs Decnet, the taste given by IBM of things to come should defer major defection from one vendor to the other.

**Transaction processing.** To "own" a corporation, DEC must be able to offer high-performance, highly reliable on-line transaction processing (OLTP). DEC executives contend that their firm's VMS is very tweakable — that by setting the dials correctly, a customer can run an excellent OLTP system.

Accordingly, DEC plans to stress its OLTP capabilities in products to come. Until now, DEC has been making its greatest headway where IBM has been weakest. But by pushing OLTP capabilities, DEC is moving out of its area of strength into an area in which IBM is very strong.

DEC must prove itself with OLTP, an application area in which it is not so evident that, as the company slogan says, "Digital has it now."

**Data management.** Of the major office-systems vendors, DEC is perhaps the weakest in offering its own data management systems.

Wang Laboratories, Inc. offers a solid foundation for its integrated systems through its Professional Application Creation Environment (PACE). Hewlett-Packard Co. ships its image with every HP 3000. IBM is incorporating its DB2 into Systems Application Architecture (SAA).

Yet according to some esti-

mates, only about one quarter of the installed VAXs use DEC's relational data base, RDB, although this percentage definitely is climbing.

DEC recognizes that it must leap ahead with data management. Accordingly, it is devoting a great deal of research and development effort to building up RDB.

IBM, as vendors such as Cul-

linet Software, Inc. know, plays hard when it comes to data bases. DB2, which started out a bit threadbare in places, quickly became a very robust offering — one that plays a key role in SAA. Also, the fabled 3X, a follow-on to the System/34, 36 and 38 line that would combine the 64-bit CPU and data base prowess of the System/38 with the ease of use and installation of the Sys-

tem/36, apparently is further along than some think.

IBM will be very strong in a distributed data base environment. DEC may have the current edge with peer-to-peer networking, but IBM leads in data base experience.

**End-user programming.** DEC works hard to provide a good environment for corporate programmers and, clearly, is

seeking to steal them away from IBM. But on the other hand, DEC spends little time producing tools to support end users creating their own applications.

Should DEC decide not to address this critical issue in a meaningful way (macros in a spreadsheet don't count), it could end up as Wang did a few years ago — scratching its head

*Continued on page 51*

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## DEC DOWN?

FROM PAGE 49

and wondering where all the customers had gone.

Workstations. DEC entered the workstation wars late and on top of the Microvax platform. Vaxstations are completely outclassed in terms of processing power by the competition. Apollo Computer, Inc. has just rolled out a desktop workstation rated at four million instructions per second (MIPS), while Sun Microsystems, Inc. has introduced a 10-MIPS workstation.

DEC counters that its sophisticated Local-Area Vaxcluster solves the processing problem by providing distributed computing power when needed. Nevertheless, the competition is going to be offering distributed processing as well, most likely through Apollo's Network Computing System. And DEC's solution is a hardware-intensive one. Need more power? Buy another Microvax.

DEC needs to bolster the power of its Microvax chip set. The long-awaited follow-on to the Microvax II should help, but other vendors are also pushing ahead. And although DEC may have aggressively chopped the entry-level price of a diskless Vaxstation 2000, users are still faced with the prospect of buying a \$65,000 Vaxserver 100, which is basically a Microvax with a big disk.

OS/2. Only grudgingly did DEC embrace the standard IBM PC and Microsoft Corp. MS-DOS into its product family. Now, with another de facto standard looming, DEC once again is going to play safe. "OS/2?" says Henry Aronson, vice-president of DEC's Business and Office Information Systems. "It doesn't exist."

Granted, OS/2, which was jointly developed by IBM and Microsoft, is not on the scene yet, but developers are merrily writing for it. Does anyone truly believe that a product with the weight of IBM and Microsoft, not to mention the support of vendors such as Wang and Compaq Computer Corp., behind it will not become an important factor?

A forward-thinking DEC would recognize that embracing OS/2 now and creating a DEC-extended version to integrate Intel Corp. platforms into the network would put the company in the strongest position possible.

But OS/2 support is potentially threatening for DEC. An Intel 80386-based server running OS/2 and Microsoft's LAN Manager, along with a DEC-specific extension for integration, could displace Microvax servers and DEC's VMS Service for MS-DOS. Nonetheless, it is better for DEC to offer the option itself rather than see customers once again start complaining about lack of support for standards.

**Development environments.** Given DEC's current attitude, a protective approach to OS/2 is very unlikely. DEC stressers, quite naturally, VMS as its platform for development. But it relegates the other platforms — Unix (in its own version, Ultrix) and MS-DOS — to their own external development

Apollo. DEC needs more vigorous development work on the Ultrix side if it expects its Unix solutions to hold their own in the market.

Core applications strategy. DEC, like other vendors, offers a set of integrated personal productivity tools to the end user. Today's offerings include

water mark of DEC self-satisfaction was its statement — and a very successful marketing ploy — that DEC connected to IBM better than IBM did. Such is no longer the case, however, since other vendors have gone beyond DEC in the range of IBM support. DEC lacks, for example, the PU2.1 support necessary for

Pricing. DEC characteristically uses only IBM products and pricing as benchmarks against which to display its own wares. Other vendors, however, claim to have a much better price/performance story to tell than either of those two.

Although PC All-In-1 is a good idea, it suffers from too high a price. The Vaxserver 100, designed to support the low-cost, diskless Vaxstation 2000 workstations, costs a whopping \$65,000.

With products from the MS-DOS, Unix and OS/2 worlds providing equivalent or better performance at a lower price, DEC will need to change its approach to pricing.

Attitude. DEC's attitude is another weakness. Certainly, the company should be proud of itself. From the gloomy period right before the introduction of the VAX 8600, it has done an incredible job of barraging the marketplace with next-generation VAX processors, sophisticated distributed networking and more.

But DEC is beginning to suffer from a case of hubris. Its high-handedness toward the Manufacturing Automation Protocol group is just one example. DEC has discovered that it has weight, and it's beginning to have that bulk around.

Such an attitude is very similar to the one that IBM suffered several years ago. IBM has since "got religion." It is listening very hard to its customers, paying attention to the competition and making the right changes.

The most disastrous move DEC could make now would be to dismiss IBM as a stumbling buffoon, a fat old giant whose time has come and gone.

### DEC is very capable of falling behind its competition in the quality of its interface and of the applications themselves.

Interestingly, IBM's model, for so long vilified as the embodiment of a bad user interface, may end up as a pacesetter in this area.

processes. In other words, DEC innovates with VMS but merely supports with the other two.

The result is a clear imbalance in functionality across the architectures. The Local-Area Vaxcluster, a very nice piece of work, is for VMS alone.

In the Unix area, for example, DEC has said all the right things. The latest release of Ultrix, Version 2, adds the needed support for the AT&T Unix System V interface definition, Network File System and University of California at Berkeley's Unix 4.2 and 4.3. DEC also has said it will support the Posix effort and has introduced a new C compiler for Ultrix.

But these efforts are something all vendors are doing or will have to do. DEC's Unix workstations are hobbled by the power of their processor. Without access to the shared computing MIPS of a Local-Area Vaxcluster, Ultrix workstations are relatively pay and certainly not a match for the robust offerings from Sun and

editors, mail, videotex and DecTalk under the umbrella of All-In-1. Tomorrow's offerings will add applications such as electronic publishing and query modeling beneath a windowing version of All-In-1.

While such an approach is sufficient to keep up with the pack, it is certainly not leading edge. Although DEC has successfully poured a great deal of energy into networking, the energy it has expended on core applications does not seem to have kept pace with the enormous efforts the company has lavished — and rightfully so — on networking. A version of DEC's WPS-Plus that runs in a windowing environment is not particularly enticing.

DEC is very capable of falling behind its competition in the quality of its interface and of the applications themselves. Interestingly, IBM's model, for so long vilified as the embodiment of a bad user interface, may end up as a pacesetter in this area.

IBM integration. The high-

### IBM's Systems Network Architecture Distributed Services

Even more interesting is what the entire issue of SAA connection will mean to other vendors. DEC has chosen to sign its knee and gaffir at IBM's SAA. In essence, however, both companies are driving toward the same goals: interoperability and distributed computing.

IBM's rigorous standards for SAA, right down to the look and feel of the interface, will create some interesting problems for other vendors. How fully should they connect to SAA? How complete should the interface adherence be? Toe the line too closely, and there is not much area for value-added features or differentiation. Stray too far away, and you lose transparency.

If DEC's ultimate strategy of parity with or displacement of IBM succeeds, then it won't have to worry too much about not offering as complete an IBM connectivity lineup as other vendors do.

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# USERS LACK VAXCLUSTER TUNING TOOLS

*Six thousand customers worldwide push to know more  
about who is using the system and when*

BY JEAN S. BOZMAN

**M**anagement of VAX machines used to be straightforward enough. What you saw was what you used.

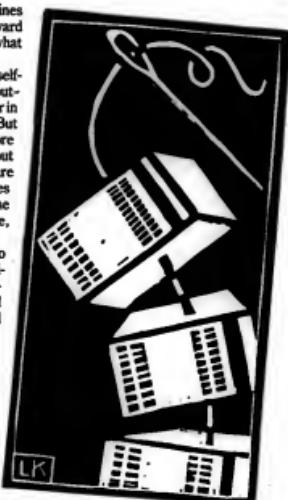
The VAX-11/780 or 11/785 were self-contained engines for end-user computing, often located down the hall from, or in the same building with, its end users. But today, DEC spokesmen say, out of more than 100,000 VAXes worldwide, about 6,000 are Vaxclusters that are networked on Decnet or Ethernet lines across the country and around the world. As a shared computing resource, VAX is no longer so simple to manage.

DEC has responded to users' pleas to optimize Vaxcluster performance primarily on the hardware end of the Vaxclusters — improving bus channel speeds through the VAXBI bus and providing a common access to multiple high-capacity disk drives.

But leading-edge users have begun to feel that in the wealth of DEC products available, there is something missing: performance and monitoring software that would help them fine-tune their Vaxclusters.

In DEC, many such applications

Bozman is Computerworld's Midwest correspondent.



LES KARTZBERG

exist, primarily within its field service operations. But users report few offerings in the following key areas of Vaxcluster systems management:

- Resource- and job-accounting software.
- Monitoring applications.
- Tuning applications.

The need for resource-accounting software is felt most at the largest accounts, where a single Vaxcluster may provide 50 million instructions per second or more of computing power. "People want more control," said one East Coast user who asked not to be named. "More digital customers are using clusters as clusters, not just as a bunch of connected machines."

#### Trying to fill gap

DEC may already be moving to fill this gap in management software, according to Larry Pfeifer, vice-president of marketing at Signal Technology, Inc. in Goleta, Calif. "We believe that Digital is placing special strategic emphasis on the area of resource management," he says, "because of the complexity of new VAX systems."

Some DEC observers predict that VMS Release 5.0, due out this fall, will contain more built-in features for detailed performance and usage monitoring.

One such feature is a job-accounting software, an application or series of applications that give system managers on who is using the Vaxcluster computing resources and for how long. Only 2.3% of all VAX sites, including those with clusters, have installed systems accounting software, according to Computer Intelligence in La Jolla, Calif. In contrast, about one-third of all IBM mainframe sites run some kind of accounting package, the firm says.

According to Dave Esler, a market analyst with Computer Intelligence, "Most of the accounting software that is installed [on DEC systems] comes from third-party vendors."

#### Accurate chargebacks

Job-accounting software is founded on resource-accounting software, which collects statistics on the number of users logged onto one Vaxcluster machine at any given time. It allows MIS to charge end-user organizations more accurately for their computing time.

For the moment, DEC has clearly left this field open for third-party vendors of systems-accounting software. DEC distributes the market-leading accounting software package from Signal Technology through the Digital Classified Software program. Computer Information Systems is the second largest, with its Quantum RS accounting package. Two other players round out the field: Gegec, Inc. in Riverside, Md., and Reaco, Inc. in Rockville, Md.

In the absence of many vendor-supplied solutions, many users have written their own systems-accounting applications. One such site is the Midwest Stock Exchange (MSE), which runs two Vaxclusters composed of a total of five VAX machines.

MSE programmers wrote their own package to track the level of computing use for the Vaxcluster trading system. "We want to make sure that people are getting charged properly for their use of the VAX cycle times," says Mary Jo Moccia, vice-president of electronic data processing services for the Chicago-based exchange.

Carnegie-Mellon University in Pittsburgh wrote its first systems-accounting package more than five years ago, even before it installed its first Vaxcluster. Now, the university computing center runs a five-machine Vaxcluster that supports hundreds of end users. "We do our chargebacks internally, but all the software we use to do it is home-grown," says Tom Bajek, director of the computer center.

#### Control via monitoring

But accounting software is by no means the only way that users can gain greater control over the use of their Vaxclusters. Another key area is systems monitoring and performance.

DEC provides several forms of systems monitoring, including several elements of the VMS operating system. Among these are the Software Performance Monitor and the VAX Performance Advisor. In addition, DEC recently enhanced its Vaxcluster Analyzer system to support 24-node attachable CPUs.

The console system, based on a Microvax II, can display the level of system utilization, but it does not provide systems-accounting functionality, says Tom Lowery, Vaxcluster Console Systems product manager. "It's a system management tool that eliminates the need for hard-copy monitoring by showing the information on a Microvax II or Vaxstation II/GPX screen."

Field engineers at DEC's Colorado Springs Customer Support Center use dozens of other programs to diagnose system errors and pinpoint I/O bottlenecks, says Ronald Ochoa, an engineer in the Customer Integrated Systems Group. These applications allow field engineers to probe system errors in Vaxclusters located thousands of miles away and find patterns in the errors they detect.

Recently, there have been signs that DEC may be ready to share some of these applications with users by bringing the applications into the company's 24 applications centers.

Such customer support centers could be the location for the genesis of even more fine-tuning software for large Vaxcluster systems.

## CAN DEC PROVE MIPS CLAIM?

BY BOB DJURDJEVIC

In an Annex Research, Inc. report released early this year, I noted that "DEC's successes have got IBM's attention." But I also warned that this was not necessarily a good thing — for DEC.

In March, DEC found out why, when IBM escalated the "war of MIPS." In a glossy brochure entitled "The IBM 9370 Information System: Performance by Design," IBM published performance figures where million instructions per second (MIPS) ratings dwarfed those of comparable DEC VAX processors. Assuming an 80%-20% ratio of commercial to scientific processing, this document implied that "IBM MIPS" were 2½ times greater than "DEC MIPS."

"Our senior management is very concerned," a DEC spokesman said when asked about the reaction inside the firm to IBM's allegations. "We see it as a case of 'DEC-bashing.'"

"DEC-bashing" or not, IBM's claim directly challenges DEC's assertion that its "net usable MIPS" are about 42% greater than IBM's.

What may be surprising about the IBM claim is the aggressive boldness with which the giant made the allegations. First of all, the very publication of a document that names and details information about competitors' products is unprecedented. It is not that IBM sales representatives have been above occasional mudslinging in hot and heavy competitive battles. Putting it in writing, however, is something that only the inexperienced or foolish among them would have done.

Now, the company's official publication number G360-2714-00 has referenced, in no uncertain terms, not just DEC's products but also those of Data General Corp., Prime Computer, Inc. and Gould, Inc.

Second, some of the statements in the IBM

Annex is a computer industry analyst and president of Annex Research, a Phoenix-based computer research and consulting firm.

brochure may be interpreted as violations of IBM's own "Business Conduct Guidelines." John Opel, the company's former chairman, reaffirmed IBM's long-standing practice of not disparaging competitive products in the latest edition of the company booklet, published in 1983.

The IBM performance brochure states that the reason for the 9370's allegedly superior performance is its ability to simultaneously execute 370 instructions in the IPU (Instruction Processing Unit) and I/O functions in the I/O processor. "So far so good," since the company is publishing the usual and valid virtues of its own products. But IBM goes on to say that "some more advanced processors are limited to executing only one instruction at a time, in one processor." To which "less advanced processors" is IBM referring? No one could mistake the target of the broadside.

Could DEC do anything about it? The answer to the question is yes — but not immediately. The 9370s were still phantom machines in March, announced but not yet delivered.

And IBM's RAMP-C benchmark, on which the company based its allegations of deficient VAX processor performance in a commercial environment, is an internal IBM test. Having tested its 9370s against only one DEC machine, the Microvax II, IBM then extrapolated its results to other DEC mid-range CPUs to arrive at its conclusion.

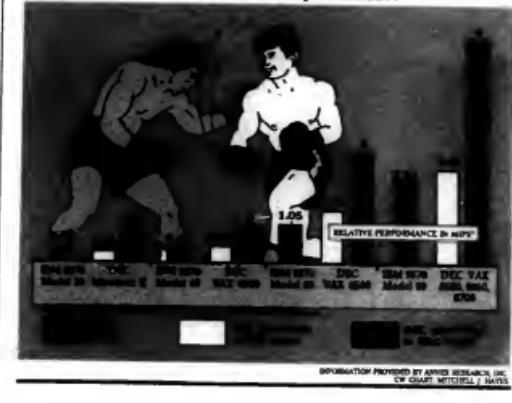
So how can DEC respond? One way would be to offer proof of its own position that it is the *net* throughput that counts, not that of the individual processors.

The next move in this MIPS war is clearly up to DEC. Now that IBM is delivering its 9370s, the industry will be looking for some proof beyond DEC's cocky statements. If we don't get it in the near future, I, for one, will be obliged to accept IBM's allegations that its MIPS are worth 3½ of DEC's MIPS.

If you can't wait that long, however, you'll just have to pick your own multiple — between 1 or less, as DEC claims, and 2½, as IBM alleges.

#### THE IBM AND DEC WAR OF MIPS

IBM claims its MIPS are 2½ times greater than DEC's



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# SALES FORCE UNDERGOES A MAKEOVER

*In the battle to win customers, will DEC relinquish its old attitudes toward sales reps?*

BY ALAN RADDING

**D**EC's sales representatives, as described by customers, have progressed beyond the image they once held — of "techies" in cheap suits performing such errands as running specifications between DEC's engineers and the engineers and MIS professionals who were its users.

The DEC sales force still spends a lot of time running between customers and the DEC production and operations people; now, however, the sales representatives are frequently described as better trained, better informed about the customers' business and more inclined to discuss the customers' business problems in terms of solutions and applications rather than in terms of specific hardware.

But the DEC sales force still falls short in comparison

with IBM's, considered the preeminent computer sales force — and arguably the most effective business sales organization in the country.

In particular, customers say, the DEC reps fall down in the areas of training, business sophistication, speed and decision-making authority.

The comparison has not gone unnoticed by DEC. Its sales force is going through a period of transition and clearly appears to be headed in the direction of IBM's.

About a year ago, DEC recalled all its sales reps for a two-week retraining course. The intensive seminar, held on the Boston University campus, focused on "solutions-oriented training," according to one DEC spokesman. The idea was to bombard the sales reps with the language of business solutions and vertical markets. According

*See next page*

Radding is a Boston-based author specializing in business and technology.



## SALES FORCE

FROM PREVIOUS PAGE

to customers, the plan worked. Many users report a sharp increase in the sales rep's interest in and conversation about users' business problems since last fall. Of course, learning about the business of each customer takes more than a two-week training

course, but users say they notice a different set of questions being asked.

DEC also experimented with a bonus program for the top 20% of its sales force last year. Not exactly a commission, these cash bonuses were attached to specific sales objectives. Apparently, the pilot program was successful; DEC has implemented it as an ongoing, "permanent" pro-

gram called SP-2.

The changeover to slick marketers is not something that can happen overnight, however, and the evolution of the DEC sales force is far from complete. "They're going through a growing phase. We give them about two more years to mature," says John Logan, a senior analyst at The Yankee Group in Boston.

From the company's begin-

ning, DEC was loathe to emphasize the sales force, marketing or advertising. The attitude at DEC has always been that if you build a better product, customers will come to you, explains Logan, who has been surveying VAX users about their relationships with the DEC sales force.

DEC began as an engineering-driven company, and there has been a pervasive feeling in

the industry that DEC's top management believes that an aggressive sales force cheapens the product, Logan says. Often this attitude creeps through the ranks. "In order of importance, we're third or worse" behind engineering and production, complains a veteran DEC sales rep.

"Olsen's heart is in engineering," not marketing, agrees Gregory Richards, a securities analyst who covers DEC for New York-based Fred Alger & Co.

The engineers have been wrong in the past. Performance tests showed the DEC personal computer family — the Rainbow, the Professional and the first Decmate — was better than the IBM Personal Computer from an engineering standpoint. At every technical benchmark, the machines could beat a comparable IBM PC.

But DEC personal computers died in the marketplace and were largely withdrawn. They may have been more elegant technically but not in ways that were meaningful or that attracted the nonengineer end users who were making the IBM PC such a commercial success.

## Sales specialists

Over the years, one of DEC's responses to customers' complaints about the sales force has been to reorganize it. Originally, DEC salesmen specialized in a particular product line or application. As users turned to DEC for a variety of products and applications, this approach turned into chaos.

Pretty soon, there would be a gaggle of DEC reps calling on the same customer and competing with each other for the customer's information systems dollars.

In the early 1980s, DEC switched to a sales force organized by account. Regardless of which DEC rep contact the customer wanted, he would through the same DEC sales agent. This arrangement was an improvement from the customer's point of view, but it was difficult for the sales reps, who suddenly found they needed to be knowledgeable about the entire DEC product line.

## Continuing evolution

The process continues to evolve. Today, most of the major DEC customers are served not by a single sales rep but by an account team, much like IBM customers are. Heading the account team is the account representative, assisted by other DEC salesmen who help chase down information for the customer and provide detailed sales follow-through and support.

"I like the changes. In the past, I felt that business customers were being discouraged," says Douglas Anderson, director of software development at Wisconsin-based Northwest Telephone. After 12 years as a DEC

Continued on page 58

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# USERS ACT OUT APPLICATIONS

BY ALAN ALPER

**D**EC's Application Centers for Technology (ACT) capitalize on the idea that seeing — for the increasingly skeptical user community — is believing. In this case, "seeing" means witnessing DEC equipment simulating a user's own environment in a regional demonstration center, or ACT. And seeing their specific problems up and running goes a long way toward convincing jaded MIS executives of the validity of DEC's system proposal.

"The ACT gives you touch and feel of the quality of the solution," notes Bence Nagy, manager of the factory automation program at Xerox Corp.'s Information Products Division in Fremont, Calif. "At least you leave with the notion that what they are giving you is feasible."

Since August 1986, DEC has launched 17 ACTs worldwide in cities such as Houston, New York, Tokyo and Santa Clara, Calif. Each focuses on a vertical market that reflects the type of business most prominent in that locale. Thus, the ACT in Hartford, Conn., demonstrates insurance industry systems, the ACT in Houston displays petroleum exploration technologies and the ACT in Chicago showcases food and beverage processing products.

The centers are equipped with hardware and software to simulate a variety of environments, including office and factory automation, departmental processing, and computer-aided design (CAD).

Many applications are demonstrated running on DEC Vaxchangers; DEC's networking prowess and connectivity to the IBM world permeate the exhibits.

As combined sales and support vehicles, the ACTs are staffed with sales personnel and consultants whose mission is to recommend customised, or third-party, solutions. Many products sold through DEC's Cooperative Marketing Program are now on-line at ACTs for customers to try out.

Funding for the ACTs comes out of the corporate sales budget; rather than from the regional offices, notes Bob Randolph, director of DEC Advisory Services for International Data Corp. "That gives the ACT an air of independence" from the regional sales group, he says. He suggests the separate funding helps the ACTs create their consulting firm ambience. "This is not the kind of place where the minute you walk in, 10 salespeople jump all over you."

Xerox's Nagy visited the Santa Clara ACT last May to examine networking products to integrate his operation's office automation, engi-

neering and manufacturing departments.

"They gave me a very solid demonstration on how every facet of our operation would work," he recalls.

Xerox is a very large user of DEC VAX minicomputers for design and manufacturing automation. "Our visits to the ACT confirmed that we made the right vendor choice," Nagy says. "And now we know our connectivity requirements will be satisfied."

Another DEC customer, Siemens Components, Inc. in Santa Clara, visited the ACT in its hometown prior to the ACT's first demonstration of networking personal computers with VAXs. The semiconductor vendor would like to tie appropriate PCs to its VAX 8700, which is used for integrated circuit design, and link other mis-

cient way to witness product demonstrations. "It's a very good marketing tool," she says. "It doesn't disrupt anyone's business in the shop."

While the ACT concept is popular, it is not unique to DEC. IBM, for example, operates two demonstration centers. Its Mid-Range Performance Center in Dallas highlights mid-range systems and connectivity, while its National Technology Support Center in Gaithersburg, Md., showcases large systems, data base management, wide-area networking and network management.

"DEC pirated the idea from IBM," Randolph says.

"Perceptually, it's a different approach," explains Tom Turkot, senior associate with Motivational Marketing in Ramsey, N.J. In IBM's

## DEC'S APPLICATION CENTERS FOR TECHNOLOGY

*First ACT opened in Irvine, Calif., in July 1986. There are now 17 positioned around the country, and each specialises in a particular industry vital to the local region.*



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cross to a VAX 8550 running office and financial applications.

The ACT staff helped Siemens set up a pilot program hooking up six PCs to a VAX, with a Microvax II acting as a network server. "If the test is successful, we expect to order links for about 100 PCs," explains Randy Collins, manager of CAD systems.

Collins believes the pilot designed by the ACT provides strong evidence of DEC's connectivity advantages over its competitors. "Other vendors are coming in here to show us how they link PCs to VAXs and [have] eliminated themselves because their products did not work," he says.

Another prospective customer is ESL, Inc., a TRW, Inc. government contracting subsidiary in Sunnyvale, Calif. ESL visited the Santa Clara ACT a number of times to evaluate hardware and software for MIS and CAD. The company's MIS operation is currently true blue, but engineering uses a mix of DEC and Hewlett-Packard Co. hardware, says Beverly Gerber, program manager of computer information systems.

Although ESL has not made any purchase decisions yet, Gerber says the ACT is a con-

cerns, which he has visited, "You get a feeling they're going to sell you what they want to sell you," he says. In ACTs, "DEC just shows you what they have."

DEC is making a substantial investment in the ACTs as a marketing vehicle. Randolph estimates the company spends \$4 million per ACT installing hardware alone. He adds that to an average staff size of 20, each garnering \$50,000 in salary. Add also software costs, overhead and network management. Multiply by 17 ACTs, and the figure begins to push \$100 million.

Nick Romaguera, vice-president of manufacturing software development for Camco, Inc., an oil industry parts manufacturer in Houston, has worked with the ACT in his area extensively. When Romaguera joined Camco 2½ years ago, the firm was using only IBM equipment. Since then, Camco's management attended at its local ACT convinced the company to switch almost exclusively to DEC equipment for factory automation, CAD and computer-aided manufacturing.

"Viewing the latest equipment firsthand, rather than out of a catalog, is nice," Romaguera says.

Alper is Computerworld's mid-Atlantic correspondent.

## SALES FORCE

CONTINUED FROM PAGE 56

customer, Anderson says he feels he is finally getting the attention from his DEC sales team that was reserved only for engineering customers in the past. When it becomes time to negotiate prices, terms, delivery and contract specifications, however, the DEC sales team reverts to its old style of running messages between the customer and higher management at DEC, Anderson says.

Anderson also notes the growing resemblance of DEC reps to IBM reps. One DEC insider says that is no accident: The impetus to mold the sales force in the IBM image comes from the highest levels of

DEC. Senior-level managers "are obsessed with IBM," this veteran DEC sales rep says.

The sales force senses that obsession and responds accordingly. DEC sales reps say that each sale comes down to either DEC or IBM, and their goal is to beat IBM. "We're the only ones out there," the DEC rep brags. During the past year, he says, he has not lost any sales to Wang Laboratories, Inc., Data General Corp., Unisys Corp., Prime Computer, Inc. or others — just IBM.

Still, the transformation of the DEC sales force has not made it an IBM clone. "The DEC people are more casual. They're a little more up-front and personable," says Gene Robbins, assistant professor of Queens College, City University of

New York.

Robbins works with both DEC and IBM sales reps and says he finds many similarities, despite a difference in style. Both companies send technical people to fill in the details that the sales reps lack, and both companies generally respond quickly to Robbins' calls. If anything, DEC sales reps tend to be more sensitive to the technical aspects of the problem, he says.

Turnover among DEC reps varies. Robbins reports a single change of sales reps in the past two years, while Anderson says his rep has not changed at all in that period.

David Dandro, vice-president of information services at Hartford, Conn.-based Emhart Corp., reports frequent change. "It's like a revolving door," says Dandro,

who admits that he is hard on sales reps. "We're a tough customer. Neither DEC nor IBM like the way we do business."

What the sales reps don't like is that the company does not listen to the reps. "We treat them as order takers," says Dandro, who reports that his reps are promoted away and that new, less experienced reps replace them.

DEC's new business solution-oriented sales strategy implies that the sales rep becomes more of a consultant to the customer, who may not always oblige. A midwestern university complains that its DEC sales team has suddenly become very hard-sell oriented. "They are like IBM salesmen of the 1960s — no sophistication, just pressure," says the university's head of information technology, who prefers not to be identified because he doesn't want to alienate his DEC team any more than he has already.

The sudden hard sell coincides with a recent change in the way DEC handles this university account. Until recently, one DEC sales rep handled the entire university. Now, the account is served by a team, which may explain the added sales pressure. With more people on the account, the customer gets more attention, but DEC needs higher sales to justify the additional human resources applied.

But more than anything, cost is what is driving the university away from DEC. "We put in a VAX that cost \$500,000. A year later, we got an Alliant [machine] for the same money but with 10 times the power. Then we got a Sun [computer] that was equal in power to the VAX but at one-tenth the cost," he says. "It's the money, not the salespeople."

DEC rep have no authority to address price, and they lose sales as a result. "We'll buy the computer, the basic box, from DEC, but then we buy everything else from third-party vendors, because we get a much better price," says David Stanley, manager of systems and programming for Richmond, Va.-based Best Products Co., a \$2.3 billion discount retailer.

### Other avenues

Customers are not restricted to working with their DEC reps. There are other ways to obtain product information and make a purchase. Customers can buy a variety of products on-line via a computer service called the Electronic Store.

By telephone, customers can contact DEC Direct, which offers catalog sales of just about all its products short of a full-fledged VAX, but some large customers report they do not bother using the system.

Those who are familiar with DEC Direct complain that its prices are higher and that buyers must have all the necessary buying information on hand to complete the transaction — an assertion that DEC says is not true. In any case, for a large customer already served by a DEC sales rep, he might just as well call his rep.

In the final analysis, DEC may see IBM as its chief rival, but its customers tend to do business with both. Typically, the customers buy networking and scientific and engineering systems from DEC while remaining with IBM for the central business and data processing applications. The way the customers see it, the DEC sales rep is no more likely to sell them in areas in which they traditionally buy IBM than the IBM rep is likely to convince them to replace DEC in the areas in which DEC is entrenched.



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# ENTRY POINTS TO DEC

*Interviews with three DEC executives reveal  
strategies for keeping close to the customer*



JOHN FISCHER



JOHN BUCKLEY



LEONARD VAIRO

**A**s a customer sees it, every major computer supplier has various points of entry, points of interaction between customer and company. The bigger the supplier, the more dispersed these entry points tend to be. Therefore, customers may find frustrations instead of answers and promises rather than deliveries.

At DEC, now a \$9.3 billion international giant with 110,000 employees, interaction between the firm and its customers has changed dramatically during the past five years. Explosive growth has put a strain on such key customer contact points as administration, sales and service. Expanding far beyond its traditional engineering/scientific customer base has made it imperative for DEC to refocus on these areas and upgrade not only its ability to produce quality products but also its ability to satisfy customers.

There are questions that the corporation faces in order to ensure that customers retain the good feeling toward DEC that sparked their interest in the first place.

*Computerworld Extra* spoke with DEC representatives from administration, sales and service to find out how the company is addressing customer concerns.

# John Buckley

## ENTRY POINT: ADMINISTRATION

**A**s manager of DEC's business operations, John Buckley has a basic mandate to determine how DEC wants to do business with its customers. The 15-year DEC veteran spoke at the firm's Marlboro, Mass., facility with Computerworld Senior Editor Glenn Kilian.

### How has doing business with DEC changed during the last decade?

The business practices change as the kinds of customers we deal with and the problems we are solving for those customers change. Obviously, we're selling a significantly different kind of product set today than we did 15 years ago.

**Do you work out individual agreements with major customers, or does DEC have a set contract for everyone?**  
It's a combination of both. We try to be as uniform as possible so that we are treating our customers fairly and also so we can set up automated systems, which will reduce our costs and increase predictability and efficiency in dealing with a customer.

### How has DEC's recent dramatic growth caused problems with efficiency in dealing with customers?

Obviously, the growth has challenged all areas of the company, the administrative one particularly. Five or six years ago, virtually every order that a customer gave us came to Massachusetts to be acknowledged and scheduled. The invoice was prepared here, and the credit and collection function was all done centrally.

We quickly realized that we could not keep up with centralized facility — in both people and systems — to match the plant expansion of our business. So we embarked on programs to distribute that. And today, all of our transaction-oriented activity is handled in local offices.

### As I recall, customers were having administrative problems with DEC during that period. What happened?

Part of the problem was that we were running with a system that had been designed 10 years before for a much simpler way of doing business — back when DEC was selling stand-alone individual computer systems, mainly minicomputer systems, with a much simpler configuration of hardware. Part of the problem was that it was all done centrally, and those systems were simply not set up for the sheer volume of transactions.

Then there was a period when the new systems were being developed but weren't fully there. And we were trying to phase in the new



PHOTO BY GENE KILIAN

methodology and had probably let go of the steering wheel on the old system prematurely. So there was a little bit of a gap when the new system wasn't robust enough to handle the work load, and we had already started transitioning some of the people out of the older systems.

### What resulted from the customers' point of view?

The most common perception was that it took a long time between when a customer would give us an order and when we could commit to them an actual scheduled delivery date. There was frustration on the customers' part in not being able to plan their installation well.

### In the area of software licensing, DEC customers have complained that the company is extremely inflexible and costs are very high. How are you addressing these complaints?

Most of the software licensing done at DEC — and in the industry in general — is based on the concept of a software product running on a single system. Some of it is even licensed to a number of active users within that system.

We are looking at alternatives that would make it easier for customers to use software in a network or clustered environment. We're plotting some concepts. We are finding that, in fact, there is a wide diversity of how our customers operate and really quite a difference of opinion as to what they'd like to see.

So right now we're in the active data gathering mode. I suspect that within the year we will be coming up with some new policies on how we license software, how we support it, how we price it.

### What might the policies become?

I don't think the issue is negotiating a special price or deal for each individual customer, the same way I don't believe in doing that for hardware or service products.

What we are trying to do is understand the

different ways customers use software in these new computing environments. They are trying to figure out what is the right level of centralized system management vs. responsibilities given to the individual users. And different customers have determined different answers to that question.

I would not expect us to come out and say we're going to negotiate price or license terms with each customer. It would be hopelessly confusing and just take much too much of our time and our customers' time.

### Is there one specific complaint you hear a lot?

Yes, the thing I hear most is that as customers grow the use of their systems and have more and more multiple layered software products on the system, and as they network them together, it is becoming harder for the customer to really keep track of how much software they've purchased, how many licenses they have. The customers are asking for some assistance in helping them manage their own software licenses.

### Billing is a problem area in the computer industry, and I've talked to some users who say that there are problems with DEC as with most large vendors.

I'm not aware of any major problem with billing. Individual customers may have a problem with a bill, but we do a lot of work when we receive the order to check that the internal order matches the customer's order. You can probably measure that by DEC's receivables being the lowest that they've ever been. We're running at about 60 days outstanding. At that rate, there couldn't be much of an opportunity for much misunderstanding going on.

### What is a typical transaction like?

We interact with customers in two ways. One is on an annual basis. We sit down with a customer and try to determine the volume of purchasing the customer plans to make over the next 12 months, then sign a contract that specifies the standard terms and conditions of the sales and the amount of discount the customer will receive based on that volume.

The other period is a per-transaction or per-order basis. Each time a customer determines he has a need, he contacts his salesperson, who prepares a quotation.

We also have an AI (artificial intelligence)-based system that verifies that the configuration is technically correct. It verifies that the salesperson didn't inadvertently leave off some option and that he has the right complement of hardware to run the software be ordered.

**What happens next?**

The customer will receive that package of documentation, along with a proposal from the salesperson explaining the benefits and technical features of the products.

If the customer decides to purchase, he would give DEC a purchase order, which would reference the quotation, or include a copy of the quotation. That order goes into an order-entry system at the local office, where it is transmitted centrally to Massachusetts daily for scheduling with our manufacturing operation.

Since the configuration has been verified and the salesperson has already checked out the availability, there's usually very little problem [in] scheduling with manufacturing. For certain products, we call our Fastship Menu, and we may ship within the week. [For] other products that have to be customized, we'll send an acknowledgement back to the customer telling him when he will actually receive it.

**What is the normal turnaround time on a machine?**

The whole thing takes one to two weeks, from order to received.

**Obviously, people weren't getting that response four years ago. How long was the turnaround time back then?**

There was a great range. The ones we worried about most were some customers [who] waited in excess of a month.

**Are customers involved the day they receive the machine?**

The customer takes title when it leaves our shipping dock. And we invoice the day we ship or the following day.

**Is there a discount for a prompt payment?**

**How do you determine discounts?**  
The discount is based on the annual dollar value of purchases that a customer is making with DEC. That includes the customer's total product purchases, so if it's a multidivisional or multilocation customer, he can aggregate together the purchasing from all his purchasing entities. And we do that on a worldwide basis so that multinational concerns aggregate purchases.

**What is the discount schedule?**  
It goes up to 21% for a customer buying in excess of \$300 million per year. It's a graduated scale-down from there, starting at the \$500,000 range.**Do you find many customers who want just one VAX, and if so, what can they expect? Is there any discount?**

Customers needing only a single system and whose needs are not expected to grow will find it more convenient to deal with one of DEC's resellers, our OEMs or distributors, because in general, those people will be able to provide a better level of service to that customer. However, if the customer wants to buy from DEC directly, he certainly can.

**I've heard that DEC is discouraging small buyers, that you only want to deal with big-volume customers. Is the lack of a discount for small customers a way to do that?**

There's no discount for people buying less than \$500,000 per year. I would say that through that practice, we are not actively encouraging those customers. I wouldn't say we are discouraging them. We simply have a limited number of salespeople, and there are just so many customers they can call on in a day or a month.

If we don't have enough salesmen for that account, a customer can always call DEC, place an order over the phone, get on the mailing list for our catalog, or even access that electronically from their terminal. So it's very easy to order from DEC, whether you are a large or small customer. [Small customers] get the same terms and conditions of sale and same delivery schedule as a large customer.

**But you'd rather these customers go to a reseller?**

If a customer is only buying a very small system, it usually means they don't have a large technical staff to assist them in developing the application, supporting it and verifying they are buying the proper equipment. Those are the kinds of services a reseller can provide. If a customer feels he doesn't need that and is more comfortable dealing with us directly, we're very happy to do that.

**Do the big customers want to hog-**

gle and negotiate prices? Is there any flexibility beyond the discount?

In order to be fair to all our customers, we believe we have to establish a firm list price and a firm discounting schedule based on volume. If we allowed ourselves to get into the business of setting a special price for a special customer, then very soon we'd not be treating all customers equally. So we don't negotiate price.

**Who serves disputes?**

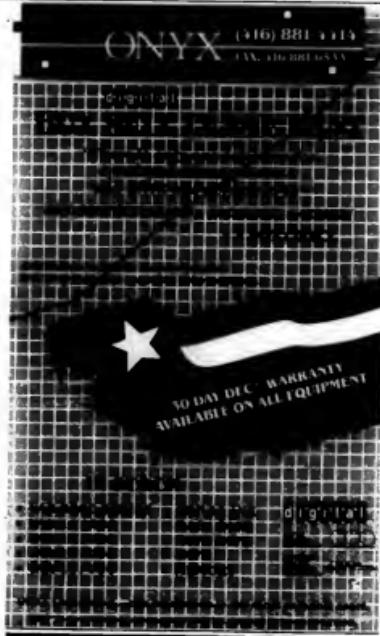
If there's an issue with the customer, it's usually solved locally by escalating it up the chain in that service office. So ultimately, it's the local service manager who will be called in. It is extremely rare that a problem would get escalated above that. However, as a safety net, the customer always has the ability to contact an area sales vice-president or someone back at corporate headquarters.

**Have you arranged electronic document interchange with large customers?**

We're certainly done that on the ordering side. We have a large system called the Electronic Store where any customer can gain access and place orders with us, receive quotations and check prices. That is happening today. We are currently not doing electronic billing, although we have been looking at that.

**Is there something we might see in the near future?**

Not in the immediate future.



Circle Reader Service Number 44

SEPTEMBER 2, 1987

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Circle Reader Service Number 45

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## Leonard Vairo

### ENTRY POINT: SALES

**L**eonard Vairo, a sales executive in DEC's Western Massachusetts region, has worked eight years for the company, the past four selling in the field. He talked with *Computerworld* Senior Editor Glenn Rifkin about what it is like for customers to interact with DEC's sales force.

**Customers feel that DEC is so big now that it is like dealing with several companies, not one.**

DEC has undergone a major metamorphosis in how we approach our customers. We recently restructured such that we have multiple folks calling on customers, but they're all targeted to specific areas.

For example, existing installed systems would have somebody on the team calling at a particular level for smaller upgrades, while a general account manager coordinates all the activities in that customer's account. So there may have been some confusion by bringing in more folks over the past year, but it is to deliver better support and more focused support to the customer.

Also, DEC is so multifaceted in what we are selling — networks, computer systems, workstations — that we have to elicit support from our internal organization to come out and help us with those unique customers' needs because we can't do it all ourselves.

In that respect, we do bring a lot of faces into the customer's account. But that's a benefit to the customer.

#### **What is the average tenure of a DEC sales representative?**

In the past, it was probably four years. That's fast approaching upwards of double digits. Sales has changed from a person who can do technical configurations to a business person. My background is [the University of Pennsylvania's] Wharton School, MBA. A lot of my colleagues are MBAs or have business experience. I was a finance manager before going into sales.

#### **What qualifies someone to sell for DEC now?**

Certainly one [qualification] is business acumen, the ability to understand the customer's business and have a macroeconomic view of the direction and trends in the business world. Probably foremost is the capacity to learn and identify how new technologies will affect that customer's business. Today, we're getting into imaging, desktop publishing and other new technologies.

#### **How has selling for DEC changed in recent years?**



When you look at DEC products today, they are pretty easy. You have a VAX, and it comes in a half-pint, a quart and a 55-gallon drum, so you really don't care what the hardware is. You're more focused on what the customer's business problem is: what solutions we have that can take an application set and solve the business need.

And then you can say what size hardware needs to be, and we'll get the hardware.

So what we're really looking at is for that person to be like the doctor: Come in, we'll consult with you. And that industry expertise is extremely important. We train a lot of our people unique to industries.

#### **How many times a year do you visit a typical large account?**

More like how many times a week. As our business grows, we're heading toward one company, one sales rep.

#### **Do customers want that much love and care?**

Sure. If we're talking about a \$20 million manufacturer with its own support staff, they don't want to see you every week after you've made the sale. There are, however, larger customers who have multiple projects going on and staffs of 300, 500, 1,000 MIS folks, and they are continually trying to integrate new applications, integrate DEC equipment with IBM, find new ways of doing it better, faster, cheaper. And there are opportunities for that customer and for DEC.

IBM has an office right at the customer site. They don't seem to get sick of IBM. And thus far, they haven't gotten sick of DEC, either.

Today, you face more multivendor shops and more aggressive sales representatives everywhere, especially from IBM. Do you find yourself sitting in the waiting room with other sales reps waiting to get the MIS manager's time?

I'm sure that's not uncommon. But what I've found, personally, is that companies today seem to be looking mostly for a two- or three-vendor strategy. So they are trying to minimize the standing-room-only crowd in the waiting room.

**Some customers say that if they are a large organization, they can be characterized as both a "major" and a "national" account at the same time, and that causes confusion for them from a sales contact point.**

We have divisions of national accounts which are geographically dispersed, and therefore we have a local person working with that particular division with local support. And we've come a long way in integrating that division strategy with the corporate strategy, getting the corporate resources and corporate direction that our national account folks are working on cross-pollinated to the satellite office or the divisions.

There was a problem in the past, but our national account organization has put a lot of time and money behind the integration of our own DEC sales force and taking those folks who are remote and integrating them with the corporate offices to make sure we have one message going out to the customer.

#### **How recent is that change?** The last 12 to 15 months.

#### **DEC sales agents work on salary rather than commission. Do sales suffer due to lack of incentive?**

You have to have a conviction that the products you sell and the customer satisfaction make your job easier, and you feel good about what you are doing. If you go into the commissioned environment, where there are fewer support folks, getting demonstrations is difficult. There's an aggravation factor in the commissioned environment.

#### **But what kind of salary structure must you have to offset the lure of commission? How do you keep those people happy?**

We certainly are competitive. If we weren't on an annualized basis, we would see an exodus from DEC. We are well paid. The other piece is that there is a bonus program such that the top performers do get an incremental hit.

**How much is the bonus?**  
I don't want to say exactly, but the top 20% get a bonus. That's very important. The other piece of it is that a lot of commission structures are

set, and if you want to go with a small start-up and take the chance, you may hit. If you don't — if you want to go with something a little more like the Apollo or Sun of the world — you're seeing that their base salaries are getting higher and commissions getting smaller. They are approaching what we are doing with a salary-plus-bonus program.

**But when you are out there looking for good young people and they hear that there is no commission, is that a tough sell?**

That question has never come up when I've interviewed or recruited people. What they care about is that DEC is growing at such a fast rate. If we are growing at 20% or 30% a year, we are doubling our size every couple of years, and the opportunity for advancement — to get into executive-level selling or management — is tremendous and probably supersedes that of the commission structure.

**I have run into several former IBM sales reps now at DEC. Is that a trend you are seeing?**

Absolutely. It used to be just the BUNCH people — the NCR [reps], the Honeywell folks — who were coming across. But now there's a lot of IBM folks. It's good to see that, and they bring to the table quite a bit of talent.

**Has there been much movement of DEC sales agents going to IBM?**

No, because IBM doesn't usually hire, except right from college, and then groove people within their own areas.

**I'm hearing that customers are frustrated because the good DEC sales reps are getting promoted away from their accounts, and they are left with younger, inexperienced people. Is it enough to train new people for a few months and then send them out head-to-head against IBM?**

What happened in the past is that you had somebody who was a crackjack, and they did move up. Now, we've restructured the sales organization with sales executives and account managers who are beyond the senior sales rep level. So you have alternative career paths. You can continue to be a sales professional, or you can go into sales management. You won't be impacted negatively either way.

**Networking is a difficult concept and a tough sale. How do M&As from Wharton without technology training sell networking?**

First, the rep has to have some knowledge of what networking can do. That's where the training comes in. The next level is determining what is the customer's business problem such that — from a cost-justification standpoint, from an information-flow standpoint — the network provides a benefit to that customer that supersedes the cost.

Today, the customers really don't care if it says IBM or DEC on the box. They are looking for a solution to their business problem. Being able to eloquently and concisely communicate the benefits of our solutions to their business problems is the key.

**Can the DEC sales force handle the onslaught from IBM?**

Absolutely. We wouldn't be where we are, and IBM wouldn't have woken up, if

**"WE wouldn't be where we are, and IBM wouldn't have woken up, if we had not stepped on their toes in certain areas. We've gained market share at their expense. We're cautiously enthused about that."**

we had not stepped on their toes in certain areas. We've gained market share at their expense. We're cautiously enthused about that. We've made sales and worked with customers who were previously only IBM shops because we had something to deliver to them.

**How do you sell VAX into an IBM account?**

In the past, you wouldn't get that sale. And for the most part, you'd want to bring it down to a technology issue like MIPS or clock speed. Now, we have to try to help the customer understand what our solution delivers, which is better not only in the short term but in the long term, architecturally.

**Are you specifically targeting IBM as the competition looming ahead of you?**

It is a major concern. IBM is a fantastic company. They do very well, they have a big engineering staff, and they can crank out products effectively. The [IBM] 9370 just forces us to be that much more focused.

We're not standing still, either. We have new products coming out and a continued focus on the customer. If the 9370 doesn't solve a customer's business problem, then we're not worried about it. It will solve some business problems. But we feel we can solve those same business problems more effectively.

**What are DEC sales reps measured by?**

We have a quota that the corporation targets us for. In addition, we are measured on customer satisfaction. We have surveys that go out based on the sales and support function. And that goes right to our salary reviews.

**DEC is rolling out VAXes so fast that customers don't know when to jump on the train. Doesn't that create tremendous pressure for sales agents to keep the customer happy?**

The customers would feel betrayed if a VAX really did become obsolete. But the 11/780 is still an excellent product and still runs the same software that the new products today will run and the products five years from now will run. So you never feel that the customer is making an investment in obsolete equipment.

**But in terms of price/performance, it could be made obsolete pretty quickly — for example, the 8600.**

Yes. And we've learned from that lesson. Later, when we brought out the 8500, we went out and did free upgrades to the 8530 because we brought out that enhancement faster than the market was able to swallow.

**Can customers expect that policy to continue?**

doing that same application? It's all in how you determine the benchmark.

**Customers are also confused about discounts and licensing. They say DEC has been inflexible on this issue.**

The most confusing part about the licensing has not been our policy but the confusion in setting that policy. The policy today is very cut-and-dry.

If I were to present it to you as a new customer who never knew DEC before, you'd say, "I understand that completely." [But] customers who went through that change and the wavering back and forth — we weren't going to license, now we are relicensing sales of used equipment — that's where the confusion has come up.

**What is the single, toughest assignment for a DEC sales representative?**

The single, toughest assignment is the investment conversion, which is putting together a well-documented plan and justifying the resources that go along with a multiyear strategy for a new customer that hasn't done business with DEC before.

Quite frankly, those customers aren't just in the commercial areas. They are in manufacturing, in our traditional accounts like insurance companies, banks, brokerage houses. You have to go through the stages of education and awareness. You have to battle misperceptions in overcoming that.

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Circle Reader Service Number 46

# John Fischer

## ENTRY POINT: SERVICE

**J**ohn Fischer, DEC's area manager for service and support in the New York/New Jersey region, is responsible for customer satisfaction in an area that includes virtually the entire financial sector of DEC's business. He joined DEC's field service group 18 years ago and now oversees 1,100 employees.

Fischer spoke recently with *Computerworld* Senior Editor Glenn Rubin about what customers can expect in terms of service and support.

### What is your most common service call?

Customers are redefining service. They are moving toward uninterrupted applications. In fact, there has literally been a technology revolution taking place in the past year.

We have a responsibility to customers to make sure they meet their critical business success factors. It used to be they'd have a problem, call us, and we'd respond. Downtime would be tolerated, and we would go off and solve the problem. What's changed is that they no longer want downtime. They want to create "work-arounds" — uninterrupted applications.

Customers are redefining service in other ways, too. They are expecting more of a consultative approach. We're in a business where we stopped fixing hardware and are now fixing our customers. They're asking our engineers and our first-level management to spend more time with them. In many cases they are asking us to plan with them and [are] seeking advice. It's more partnership-oriented. Service used to be supplier and customer; today the two organizations are more of a partnership.

### Service used to be looked on as an afterthought. Can you define what service and support are today?

The service model has changed almost overnight. A product would be on the street for seven years; today it is on the street for maybe 18 months before the product is changed. As a result, your approach to taking care of the customer changes. You must invest up front in the proper training. We have to do it up front because we can't do it at the expense of the customer.

In fact, product life cycles have changed dramatically. We're moving to a very technology-intensive business vs. a labor-intensive business before. DEC has taken an integrated approach, in terms of its services. We look at how customers use their systems and design their service delivery strategies around the use of those systems. Three or four years ago, we would service a computer; today, we service a network of



F. CHARLES LARSEN/CS

computers. The reliability of each component is very high. But it exponentially compounds itself when you tie all those components together.

As a result, we've made significant investments over the past few years in artificial intelligence and remote diagnosis. Remote diagnosis is very different from remote diagnostics. Diagnosis is monitoring and looking ahead, looking for symptoms prior to it breaking, vs. diagnosis, which means it's already broken.

We're looking at more predictive or sympathetic maintenance and software work-arounds that will keep the customer's business or application up vs. going in and fixing a down situation.

### Are more calls handled remotely now?

From a pure fault situation, the algorithm has shifted dramatically to not having a down application. It isn't so much whether they've been done remotely, because in many cases the customer will look into the software and receive a fix and it is something they can handle themselves.

### How does a customer get charged for service?

Many new customers may perceive that we come in and fix a computer. What we really do is sit down and plan with you right from the beginning what you want to do — from the design of the application to the design of the computer room to the design of the network. We'll manage the installation, we'll manage the life cycle of the application. And we offer every variety of service you may require, from guaranteed response times to need-for-service. We're very flexible in what hours of coverage you might need. We try to match that up to how you run your business.

### Do you have a deluxe service?

Our premier service is called Decservice. With that comes guaranteed response times and some other services.

But cost is based on the number of compo-

nents. It's not a percentage of something.

We recommend our customers buy Decservice. It's a quality level of service that comes with all the engineering updates that would come out. That's priced accordingly to what you are doing with your system and all the components of your system, [as well as] the software.

### DEC is pushing hard in the area of networks. Does that make your job tougher than it was before?

A few years ago, we looked at how customers were going to use systems. We saw that they would use systems talking to systems. So we decided to approach service from the top down, from a customer's view of managing a network. We started with investment and design into those systems. We have our own internal services engineering organization that works and complements engineering in the design of a product.

In other words, there will be points within a particular product that can be software- or hardware-checked that would report a failure that comes up. As a result of putting those designs into the product, we've been able to invest in our remote diagnosis center artificial intelligence software that can then go in and monitor these.

### Can customers expect one contact to the company when they get a service contract from DEC? Will they always deal with the same person?

If you have a large, dispersed geography and you only have two people covering two states, you may not get the same person all the time. But we do expect our account rep to call back and make sure the customer is taken care of. You can also have a designated person in our remote support centers who provides remote support.

### In a multivendor site, who is responsible for service when it is unclear who controls what?

Customers are asking for one contact; that's what we're hearing. In most cases, our software is designed in terms of network management so that it is relatively easy to tell when it goes to someone else's piece of equipment, and we'll inform the customer of that and they can manage the other vendor.

We're acting much more now as a single source if they choose us to be, even to the point where we will manage the other vendor — do vendor notification, tracking the other vendor, making sure they respond, making sure they close it out and then going back and testing. It's a program called Netcare that was introduced a

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MIS faces conflict in the mid-range



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**If a customer so chooses, for a fee, will you cover everything?**  
It's now called Netsupport and Maintenance Management. It is an available service. We may be a single point of contact for the entire network, and we can be a contact for a majority of it.

**How does that work?**  
It's very easy to determine that a node over here is not responding. In fact, the customer under Vaxmax sees all the pieces of equipment. Vaxmax is a software product they run that will tell them what errors are coming up, and who is there and who isn't. It's almost like a traffic light.

The system points out a software error over here, so a yellow flag comes up. A green flag says the product is working. A red flag says it's gone beyond the threshold and is not performing. And you can literally sit there and look across your network workstations at every product.

Then we can have Netsupport go in and find out which component is faulty and figure out if it is a DEC product or someone else's. Depending on our relationship with the customer, and what they want us to do, we'll go find out and manage the vendor, notify the vendor of what's a wrong.

**Do you run into any problems confronting a competing vendor saying, "We are now running the account's service maintenance, and**

**you have to come and fix your equipment?"**

We have not run into that. They are more than collaborative. I've seen instances where they clearly had the customer in mind.

**What about the customer who doesn't have the Netsupport service agreement with you and it's every man for himself? What do you do if the link to the mainframe is not performing up to standards and you think it's IBM's fault while they say it's yours?**

Until the problem is solved, I would make the assumption that the problem is ours so as not to penalize the customer.

Secondly, I would escalate the customer orientation to get him to manage the responsibility of whatever other vendors are involved. They have to assume some of the responsibility if they don't have someone accountable for the whole network.

In the banking and financial marketplace, if something is down they will be glad to work with anyone to solve it. They can't have those things down. In all my experience out there, I've never had to deal with another vendor to solve a major situation in a conflict mode. Either we've gotten the customer to do it, or we have worked with other people to do it.

**If you took a typical configuration, say a VAX 8600 with Microvax's serving Vaxmates, how often would service be needed in**

**that setting?**

That's a tough question. The reliability is our equipment today has gone up exponentially. Some of the products today still require a certain amount of preventive medicine. In many cases, it's software maintenance, optimization of software.

**How many times do you get called in for that?**

We provide that service called Digital Software Information Network (DSIN) to a customer. It's literally a software and media contract. The customer gets up-grades. Also, if they have questions and issues that come up, they have access to and [can] dial into a data base, look up the symptoms and get the latest information. So a lot is done without ever talking to a DEC service person. DSIN is the software information network, a very powerful tool.

**I've heard that DEC is closing out some third-party vendors from its own learning centers. Is that accurate, and if so, why?**

I'm not familiar with that, but I'll comment on it. We make available to third-party maintenance organizations the same spares and the same maintainability documentation and tools that many of our self-maintenance customers have. There are additional things not available to them, some specific licensing and associated training that goes with a certain level of proprietary software.

We make available to the marketplace the tools to maintain self-maintenance.

We even provide kit levels and engineering changes to third-party maintenance organizations.

Now, there is another level of self-maintenance customers, or standard customers, people who own the system and have purchased the right level of licensing of higher level diagnosis and inventories, which DEC has put in and which we will protect and provide to those customers. Understanding that we are moving from a hardware to a software orientation, our engineers are moving from hardware-oriented to comprehensive networking software skills. We are moving to a technology-intensive service delivery using artificial intelligence. We designed our services approach for all the components working together vs. the individual point/product approach. Third parties are feeling that technology is becoming their competitor.

**But you are hearing grumbling from them as one more area where DEC is closing the doors to them?**

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Circle Reader Service Number 47

## CAN DEC CONTINUE TO FLY?

BY CLINTON WILDER

The DEC story of the past two years is destined to become a classic business school case study of corporate financial success. Although a huge challenge to achieve in reality, the formula is actually quite simple: Increase market share to grow revenue, while driving profit with dramatically improved operating margins.

The question now is, Can DEC keep flying? The answer, according to financial analysts, is yes — but not using the same methods of the past two years.

The company admits that it will be hard-pressed to improve on pretax profit margins that surpassed 18% — more than triple DEC's margins two years ago — in the fourth quarter of

1987, ended June 27. That margin growth, which is astounding for a \$9.39 billion company, resulted from a higher margin VAX product, as well as manufacturing efficiencies. It was increased margins that accounted for DEC's 84% rise in profits during the fiscal year on a 24% revenue increase.

"The market share that DEC gained at IBM's expense is very high margin market share," says Marc Schulman, minicomputer industry analyst for Salomon Brothers, Inc. "A lot of the difference between DEC's and IBM's financial performances is the fact that in the past, that would have been IBM's business."

But margins have reached their peak and will probably decline slightly in fiscal 1988, analysts say. During that time, DEC's profitability will depend much more on its ability to increase sales. DEC plans to spend

aggressively in a few key areas, raising its break-even point in the short term in an effort to solidify its future growth.

"We're in the best position we've been in in a long time," says Mark Steinke, DEC's director of investor relations. "We've got to go for it. We will reinvest in research and development, sales and sales support to gain more market share, now that we have the people and the resources to do it."

DEC is well aware of its past business cycles, which saw profits drop 9% in fiscal 1983 and 3% in 1985, according to Shao Wang, an analyst with Smith Barney, Harris Upham & Co. "DEC clearly wants to avoid that trough period again," Wang says. "You have to build for the future, and it costs money, so you won't see that huge ramp that drove earnings before. In a sense, that puts DEC in the same camp as everyone else."

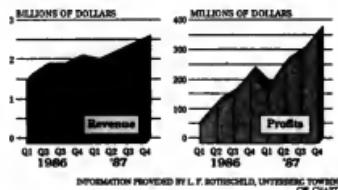
Like other analysts, E. F. Hutton & Co. veteran Michael Geran is confident that DEC can achieve the roughly 25% revenue growth it needs to maintain strong profitability. "In business, as product prices always come down, one of the keys to offer a better product mix," he says. "Twenty-five percent is a pretty ambitious target, but they can make it with the prod-

ucts they have on the way."

In many ways, DEC's formula for success mirrors a pattern of IBM's fast-paced growth in the heyday of its 360 and 370 architectures. In the late 1980s, however, corporate America's computing needs have called for departmental processing and intrasystem communication. DEC is the mid-range vendor of choice to meet those needs.

### DEC DOLLARS

DEC's revenue and profits for fiscal 1986 and 1987



Wilder is Computerworld's senior editor, computer industry.

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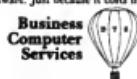
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Circle Reader Service Number 49

## ► PRODUCTS ◀

## THE LAST 12 MONTHS

COMPILED BY SUSAN GRECO

The following information was gleaned from computer analysts, DEC press releases and published industry reports. DEC has introduced more than 60 products since the publication of the last *Computerworld Extra* on DEC in September 1986; following is a selected list of products and their current status.

\* Indicates the starting price of a product.

## SEPTEMBER 1986

Product name: Vaxmate

Price: \$4,045\*

Specifications: IBM Personal Computer AT and Microsoft Corp. MS-DOS compatibility; built-in Decnet and Ethernet local-area networking (LAN); 1M-byte memory; 1.2M-byte floppy drive.

Introduced: Sept. 4, 1986

Ship date: September 1986; February 1987 for hard-disk option.

Initial outlook: Makes the Rainbow obsolete and presents more formidable competition to the IBM PC family.

Current status: DEC has fixed the problems with the Vaxmate's 20M-byte hard-disk box. Still, "it is not what you would call an aggressive, burn-burner product," says Tom Roberts of International Data Corp. (IDC). "The Vaxmate proves DEC isn't serious about personal computers," says John McCarthy of Forrester Research, Inc. in Cambridge, Mass. Roberts says DEC is shipping about 1,200 units per month. Expect a price cut, both analysts say. "We certainly get some customer push-back on the price," admits John Rose, manager of DEC's Personal Computing Systems Group.

Product name: PC All-In-1

Price: \$81,160

Specifications: Microvax II system for up to 30 users; 5M-byte memory; three RD53 71M-byte hard disks; LN03 laser printer; All-In-1 software.

Introduced: Sept. 4, 1986

Ship date: December 1986  
Initial outlook: Extends All-In-1 to the desktop, enabling the Microvax II, Vaxmate, Rainbow, IBM PC XT and AT to work together.

Greco is a Boston-based free-lance writer and editor.



The Vaxmate

Current status: One of several critical low-end products that is not meeting DEC's expectations. Forrester's McCarthy says the product is stymied by its inability to run applications. Look for enhancements soon.

Product name: VAX/VMS Services for MS-DOS

Price: \$650-\$19,500

Specifications: Includes MS-DOS 3.1, MS-Windows interface, Network/Server software, Vaxmate terminal emulation.

Introduced: Sept. 4, 1986

Ship date: Sept. 4, 1986

Initial outlook: Brings MS-DOS applications into VAX area.

Current status: DEC has been "cagier" about answering questions on the product, IDC's Roberts says. He believes the burning issue is whether DEC is working on VMS Services for IBM's OS/2. Marty Gruhn, an analyst with The Sierra Group, disagrees, saying the real question is whether DEC should combine VAX/VMS Services with All-In-1. Clearly, the product has not sold as well as hoped, Gruhn says, but he believes DEC will solve the program's problems down the road. McCarthy says the product is too VAX-oriented for most PC users: "It just doesn't perform, and it's too difficult."

Product name: LA75 Companion Printer

Price: \$695

Specifications: Dot matrix printer with five printing modes and speeds; dual compatibility with DEC and IBM; uses DEC423 serial interface.

Introduced: Sept. 4, 1986

Ship date: Sept. 4, 1986 (parallel-interface model in November)

Initial outlook: Companion to Vaxmate, printing both MS-DOS and VMS files.

Current status: Doing moderately well, says IDC's Angie Boyd, and should soon surpass sales of LA50, which runs at half the speed.

Product name: Musserver 100/Decnet II

Price: \$10,150

Specifications: Supports up to 16 users and eight remote terminals, printers or PCs; 19.2K bit/sec. transfer rate; automatic error detection.

Introduced: Sept. 22, 1986

Ship date: January 1987

Initial outlook: Complements DEC's line of Ethernet terminal servers, including the Decserver 100 and 200.

Current status: Shipping and will be around for a while; fills a void in the DEC world.

Product name: RD54 hard disk drive

Price: \$7,900

Specifications: 159M-byte, 5 1/4-in. disk drive; average access time of 38.3 msec; transfer rate of 625K byte/sec.

Introduced: Sept. 25, 1986

Ship date: Sept. 25, 1986

Initial outlook: Fills gap between 71M- and 456M-byte disks; targets office, engineering and educational environments.

Current status: Demand is good but not as high as DEC expected, according to IDC's Dave Velaine. He categorized the RD54 as a transition product. "We're waiting for Decworld" to see if new products emerge, he says.

## OCTOBER 1986

Product name: VAX 8200/8300 Configuration 2

Price: \$89,000-\$169,000

Specifications: 24-slot VAXBI bus backplane; Ethernet networking interface; support for up to 1.28M bytes of memory.

Introduced: Oct. 6, 1986

Ship date: Oct. 6, 1986

Initial outlook: Third enhancement since VAX 8200/8300 introduction in January 1986; provides opportunity for add-on manufacturers thinking of defying DEC's licensing plans on the VAXBI bus.

Continued on next page

## LAST 12 MONTHS

FROM PREVIOUS PAGE

**Current status:** No longer strategic products, says The Sierra Group's Gruhn. Basically, the \$200k/8300 has been made obsolete by VAX 8350, although it is still not clear whether you can upgrade directly from the 8200 to the 8350. Gruhn says DEC may be doing away with earlier VAX models too quickly: "Customers will start to say, 'You can always wait for a better deal next year.'"

Price was reduced and memory expanded in August; Gruhn expects DEC to continue to push the price/performance ratio "to the wall" in 1988.

### NOVEMBER 1986

**Product name:** Local Area Vaxcluster  
**Price:** \$1,000 for Vaxstation II; \$1,900 for Microvax II; up to \$9,500 for VAX 8800

**Specifications:** Software that provides clustering capabilities for up to 13 Microvax IIIs or Vaxstation IIIs and a Vaxserver. **Introduced:** November 1986

**Ship date:** January 1987

**Initial outlook:** Reinforces DEC's ability to link its computing power across networks as well as within smaller work groups.

**Current status:** In June, DEC doubled the capacity of this strategic product from 14 nodes to 28. Licenses for the new Local Area Vaxcluster are included with Vaxstation 2000 and Vaxserver products. In August, DEC announced the ability to directly attach all VAX 8000 series systems, eliminating the need for Unibus.

**Product name:** VAX DEC/MAP

**Price:** \$12,000-\$15,500

**Specifications:** Implements seven-layer Manufacturing Automation Protocol (MAP) system.

**Introduced:** Nov. 12, 1986

**Ship date:** January 1987

**Initial outlook:** DEC is walking a tightrope: must stand behind the coming MAP standard to keep position as a primary vendor of factory floor computers but is trying to sell its Ethernet and Decnet—which do not meet all MAP standards—into the factory environment.

**Current status:** Ken Olsen has been quoted as saying that General Motors Corp.'s MAP "tries to achieve too much technically and is too expensive to implement." His argument has firm grounding, says IDC's Marcia Brooks, but that doesn't mean DEC/MAP is in limbo. "It's less than whole-hearted commitment," Brooks says. But, she adds, "They can't throw it out the window."

### DECEMBER 1986

**Product name:** Decmate III Plus

**Price:** \$5,145

**Specifications:** 20M-byte hard drive; floppy drive; Gold Key word processing; VT100 and VT200 emulation.

**Introduced:** Dec. 4, 1986

**Ship date:** February 1987

**Initial outlook:** Operates as a stand-alone workstation, terminal or host system; can also be used for document transfer.

**Current status:** Perhaps best summed up by IDC's Roberts: "What is it?" If nothing else, it satisfies the installed

base's need for a hard-disk version of Decmate.

### JANUARY 1987

**Product name:** RTVAX 8550

**Price:** \$330,000  
**Specifications:** VAXBI bus; 6.6 million instructions per second (MIPS); 8M-byte memory.

**Introduced:** Jan. 6, 1987

**Ship date:** January 1987

**Initial outlook:** Optimizes VAX 8550 for real-time applications; some say it competes with Concurrent Computer Corp.'s 3280MIPS.

**Current status:** Bob Randolph, director of DEC advisory services at IDC, says

early indications spell out greater increases in shipments of the 8200 and 8250 this year than in 1986. But even greater increases in shipments will occur at the upper end of the VAX 8000 series, including this model.

**Product name:** RTVAX 8700

**Price:** \$398,000  
**Specifications:** VAXBI bus, 6.6 MIPS; 8M-byte memory.

**Introduced:** Jan. 6, 1987

**Ship date:** January 1987

**Initial outlook:** Optimizes VAX 8700 for real-time applications.

**Current status:** See "Current status" above.

**Product name:** VAX 8978

**Price:** \$4.5 million\*

**Specifications:** Eight VAX 8700s, four HSC70s, two SA482s, up to 52 MIPS.

**Introduced:** Jan. 20, 1987



The VAX 8978

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Ship date: April 1987

**Initial outlook:** Part of campaign to gain ground in the lucrative, IBM-dominated Fortune 500 data processing market; aimed at IBM's high-end 3090 Models 200 and 400.

**Current status:** What's important in the very high-end computing arena is parallel processing, according to Gruba. "DEC has some real screamers in the wings," she says.

**Product name:** VAX 8974

**Price:** \$2.5 million\*

**Specifications:** Four VAX 8700s; two HSC70 I/O processors; SA482 Storage Array; supports more than 1,000 users; 26 MIPS.

**Introduced:** Jan. 20, 1987

Ship date: April 1987

**Initial outlook:** Should help increase penetration of financial services marketplace.

**Current status:** See "Current status" above. While the 8974 and 8978 should help increase DEC's popularity in the Fortune 500 DP market as well as in financial services, the new models' impact won't stop there.

**Product name:** SA482 Storage Array

**Price:** \$84,000

**Specifications:** Stack of four RA82s; 2.5G bytes of storage; linear density of 13.6 million bits/in.; 5.5-sq-ft rack; average seek time of 24 msec.

**Introduced:** Jan. 20, 1987

**Ship date:** Jan. 20, 1987 (or May 20 as

an add-on)

**Initial outlook:** Opened the door to a "mainframe-class" disk subsystem.

**Current status:** Normal ramp-up, although availability not tremendous for some customers, IDC's Velante says. DEC should be producing 30,000 to 40,000 units per year and is not quite there yet, he says.

**Product name:** Decwindows

**Price:** Not announced

**Specifications:** Not announced.

**Introduced:** Jan. 20, 1987

**Ship date:** Not announced

**Initial outlook:** Will eventually establish a standard DEC user and application interface for all DEC desktop computers; goes a step beyond DEC's Jan. 15 en-

dorsement of MIT's X Windows system. **Current status:** "It's essentially vaporware," Gruhn says. "The strategic intent is to be wonderful sometime in the future." Nevertheless, Decwindows is critical to DEC's overall integration theme. Expect to see it pop up on the Vaxmate and the Microvax 2000 and to eventually be bundled with All-in-1, Gruhn says.

**Product name:** VAX RDB/VMS Version 2.2

**Price:** \$7,000-\$35,400

**Specifications:** SQL interface; a VAX C precompiler; support for distributed data base management capabilities.

**Introduced:** Jan. 20, 1987

**Ship date:** Jan. 20, 1987

**Initial outlook:** Emphasizes DEC's commitment to CodASYL-compliant data base software and its more recently introduced relational data base product.

**Current status:** Pulling a growing share of the market away from competitors like from Relational Technology, Inc., and Oracle, from Oracle Corp. From a performance standpoint, it holds its own against its relational rivals.

**Product name:** VAX DBMS Version 3.2

**Price:** \$10,920-\$54,600

**Specifications:** Direct control of placement of data; enhanced statistics package.

**Introduced:** Jan. 20, 1987

**Ship date:** Jan. 20, 1987

**Initial outlook:** To run twice as fast as earlier versions and more easily restructure data bases.

**Current status:** A candidate for the "aging product" category, VAX DBMS is losing sales to its relational cousin, RDB/VMS.

**Product name:** VAX Data Distributor Price: \$1,800 (Vaxstation ID); \$27,000 (VAX 8800)

**Specifications:** Works with RDB/VMS, RDB/ELN, VIDIA; two methods of data distribution; centralized storage.

**Introduced:** Jan. 20, 1987

**Ship date:** February 1987

**Initial outlook:** DE becomes a competitor in one of the two most hotly contested arenas of its own third-party data base software market; first step toward a VAX distributed data base.

**Current status:** So far, it operates only one way, distributing data from a host data base, but has no provision for updating. A Band-Aid solution aimed at IBM's Distributed Data Management.

**Product name:** VAX SQL Software

**Price:** \$1,770-\$35,400

**Specifications:** Interactive data manipulation and data-definition languages; compatible with VAX RDB/VMS and the VAX-to-IBM Data Access product called VIDIA.

**Introduced:** Jan. 20, 1987

**Ship date:** Spring 1987

**Initial outlook:** DE becomes a competitor in the second most hotly contested arena of its own third-party data base software market; first implementation of SQL.

**Current status:** "Not doing astonishingly well," says Shaku Atre of Atre International Consultants, Inc.

**SQL** is a must-have item for DEC, which is trying to win back market share from established relational vendors Oracle and Relational Technology with a

*Continued on next page*

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## LAST 12 MONTHS

FROM PREVIOUS PAGE

combination of VAX SQL software and its RDB/VMS.

FEBRUARY 1987

Product name: Vaxstation 2000

Price: \$5,400 (\$4,600 with 15-in. monochrome monitor)

Specifications: Entry level: Microvax CPU chip with floating-point unit, 4M-byte memory, VMS and Ultrix; up to 14 custom chips; 0.9 MIPS; 19-in. monochrome monitor.

Introduced: Feb. 10, 1987



The Vaxstation 2000 workstation

Ship date: March 1987; December 1987 (15-in. monitor)

Initial outlook: For the most part, re-

places monochrome Vaxstation II. Viewed by some as an aggressive positioning in the workstation market against the likes of Apollo and Sun; others say DEC still has a long way to go to compete against these two.

Current status: DEC slashed its starting price from about \$10,500 to \$5,400 for a monochrome system, spurring what some have called an all-out price war at the low end of the workstation market. "It's a shake-'em-out mentality," says Norman Weiser, a senior analyst at Arthur D. Little, Inc. "Cutting prices in half — who ever heard of that?"

Product name: Microvax 2000

Price: \$11,100-\$20,195

Specifications: Entry level: Microvax

II CPU and floating-point unit, 4M-byte memory, 42MB hard disk; 1.2M-byte floppy; up to 14 custom chips; 0.9 MIPS.

Introduced: Feb. 10, 1987

Ship date: May 10, 1987

Initial outlook: See "Initial outlook" above.

Current status: With the Microvax 2000, DEC is less likely to declare an all-out price war.

MARCH 1987

Product name: Scriptwriter

Price: \$6,295

Specifications: LN03 laser printer; supports Adobe Systems, Inc.'s Postscript page-description language and Res, ANSI/Sanz and Textrexx 4010/14 protocols; 29 resident typefaces; 8 page/min.

Introduced: March 3, 1987

Ship date: May 1987

Initial outlook: Complements VAX integrated Publishing (VIP) work group solutions.

Current status: LN03 fared well within the VIP publishing arena, so should Scriptwriter, IDC's Boyd says. Here's the issue: DEC faces... Would a customer buy a competitor's product if it also had Scriptwriter and was cheaper?

Product name: Vaxmate VIP Publishing System

Price: \$6,670 (\$12,190 for VIP Plus including Scriptwriter)

Specifications: Works with MS-Windows, MS-Chart, WPS-Plus and Aldus Corp.'s PageMaker; runs under VMS.

Introduced: March 3, 1987

Ship date: July 1987

Initial outlook: DEC's attempt to integrate electronic publishing from the top down and to counter desktop publishing solutions from IBM, Apple Computer, Inc., Wang Laboratories, Inc. and Hewlett-Packard Co., among others.

Current status: "No intense demand," IDC's John-Carol Brigham says. Vaxmate sales are slow anyway, she adds.

Product name: Vaxstation Publishing Solution System

Price: \$154,060

Specifications: Six-user Vaxstation 2000 with Interleaf, Inc.'s Technical Publishing Software; diskless.

Introduced: March 3, 1987

Ship date: April 1987

Initial outlook: Tied to success of Vaxstation.

Current status: Huge price drop in the Vaxstation 2000 should help sales. The question remains, How long will DEC be able to hold out with these prices?

Product name: VAX Departmental Publishing Solutions

Price: \$41,691\*

Specifications: Can be configured for any VAX system with publishing software that can be accessed from All-in-1; supports Information Dimension, Inc.'s Basix.

Introduced: March 3, 1987

Ship date: March 1987

Initial outlook: Not a packaged system but a generic umbrella term.

Current status: Although this is the high end of the VIP series, DEC faces much competition here as well. From a systems point of view, IBM is the main competition. Interleaf is a friend both

Continued on page 72



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Circle Reader Service Number 51

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## LAST 12 MONTHS

CONTINUED FROM PAGE 70

for, IDC's Brigham says. With Interleaf, DEC "walks a fine line," she says.

Product name: VAX 8250

Price: \$65,000  
Specifications: VAXBI bus; 1.2 MIPS; memory expanded to 128M bytes using 1M-bit chips.

Introduced: March 4, 1987

Ship date: March 4, 1987

Initial outlook: Replaces VAX 8200, helps DEC fill holes in VAX line and maintain price/performance advantages over IBM's 9370.

Current status: IDC's Randolph says

he suspects that users who "run out of steam on the Microvax II" are buying the 8250. Throughput increased (DEC claims by 40%) in August via expanded high-density memory. Price reduced to \$92,000 from \$96,000 for a 16M-byte configuration.

Product name: VAX 8350

Price: \$88,000\*  
Specifications: VAXBI bus; 2 MIPS; memory expanded to 128M bytes using 1M-bit chips.

Introduced: March 4, 1987

Ship date: March 4, 1987

Initial outlook: Replaces VAX 8300; see "Initial outlook" above.

Current status: Compared with the low and high ends of the VAXBI line, only

moderate increases in shipments are expected for the mid-range systems — \$300, \$350, \$500 and \$530 — this year over 1986, according to IDC.

Throughput increased (DEC claims by 40%) in August via expanded high-density memory. Price reduced to \$124,000 from \$132,000 for a 32M-byte building-block system.

Product name: VAX 8530

Price: \$291,000\*  
Specifications: VAXBI bus; 4 MIPS; 50% reduction in footprint size to 6 sq ft; memory expanded to 256M bytes.

Introduced: March 4, 1987

Ship date: March 4, 1987

Initial outlook: Replaces VAX 8500; see "Initial outlook" for VAX 8250.

Current status: See "Current status" above. Price reduced in August to \$342,000 from \$347,000 for 32M-byte system.

Product name: Industrial VAX 630

Price: \$32,615\*  
Specifications: Sealed, passively cooled Microvax II with floating-point processor; 5M-byte memory; 71M-byte disk.

Introduced: March 24, 1987

Initial outlook: Moves VAX processor family and Decnet onto the factory floor. Designed for supervising or controlling a group of similar tools in a manufacturing cell.

Current status: "DEC's factory tool offering is probably the strongest of any computer vendor," says Tony Fricic of Advanced Manufacturing Research.

Product name: Industrial VAX 620

Price: \$11,330 (diskless); \$23,930 (with 71M-byte disk)  
Specifications: Sealed, passively cooled real-time VAX with floating-point processor, 1M-byte memory, six or 12 slots.

Introduced: March 24, 1987

Ship date: July 1987

Initial outlook: Developed to control robots and other devices that require real-time response time.

Current status: See "Current status" above.

Product name: Industrial PDP-11/83

Price: \$29,315\*  
Specifications: Sealed, passively cooled MicroPDP-11/83 with floating-point processor; 2M-byte memory; 71M-byte disk.

Introduced: March 24, 1987

Ship date: July 1987

Initial outlook: A factory floor version of a processor previously used in manufacturing plant computer rooms.

Current status: "DEC is keeping faithful," IDC's Brooks says. "They won't ever pull the plug on the PDP — there are too many out there."

APRIL 1987

Product name: Dectalk Voice Response System

Price: \$40,000\*  
Specifications: Microvax II, 5M-byte memory; 71M-byte 51/4-in. hard disk; supports two to eight Dectalk channels.

Introduced: April 13, 1987

Ship date: April 13, 1987

Initial outlook: Works with Dectalk; designed to access data bases via Touch-Tone phones.

Current status: Arthur D. Little's Weiser reports that the product is not a big winner, from what can be surmised so far.

Product name: Metrowave Bridge

Price: \$28,000\*  
Specifications: 23-GHz microwave link; connects Ethernet LANs between buildings up to 4 1/2 miles apart; 10M bit/sec. throughput.

Introduced: April 13, 1987

Ship date: June 1987  
Initial outlook: Expands on LAN Bridge 100.

Current status: "Just one more way to get from Point A to Point B," says Dave Terry, editor of the "Network Monitor" newsletter. Not a technological advance for DEC or a strategic advantage, he says, but useful in terrain in which stringing

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COMPUTERWORLD

fiber-optic cable is not practical.

**Product name:** VT340 color terminal  
**Price:** \$2,795

**Specifications:** Dual sessions; built-in color graphics editor; resolution of 800 by 500 pixels; interconnects to IBM world.  
**Introduced:** April 21, 1987

**Ship date:** May 1987

**Initial outlook:** Replaces VT241; DEC playing catch-up with competition to an extent.

**Current status:** The VT300 series includes features the competition has sported for a year, IDC's Diane Farrell says. But DEC has added one very important feature: dual-session capability. Farrell is also impressed by the much-improved graphics (i.e., the "dragon chip"). Expect to see some heavy competition for the new models this fall, she says.

**Product name:** VT330 terminal

**Price:** \$1,895

**Specifications:** Dual sessions; graphics in four shades of gray; stores up to six screen pages; resolution of 800 by 500 pixels; interconnects to IBM world.  
**Introduced:** April 21, 1987

**Ship date:** May 1987

**Initial outlook:** Replaces VT240; DEC playing catch-up with competition.

**Current status:** See "Current status" above. With the monochrome model, you're approaching a price range "where people are getting picky," Farrell says.

## MAY 1987

**Product name:** VAX Document

**Price:** \$1,350-\$32,400

**Specifications:** Standard mark-up language; standard error messages; multilingual character set.  
**Introduced:** May 11, 1987

**Ship date:** September 1987

**Initial outlook:** Aimed at high-end technical publishing environment.  
**Current status:** Shipping two months late.

## JUNE 1987

**Product name:** VAX Supercomputer Gateway  
**Price:** \$180,000\* (DEC hardware), \$2,500/month (Cray Research, Inc. software)

**Specifications:** VAX 8250 with 20M-byte memory; memory-to-memory transfers at 3M byte/sec.  
**Introduced:** June 3, 1987

**Ship date:** July 1987

**Initial outlook:** Faster link to Cray X-MP supercomputer; seen by some as strategic move against IBM, Convex Computer Corp., Alliant Computer Systems Corp. and others.

**Current status:** No long lead times expected in shipping, according to George Weiss, program director, the Gartner Group, Inc., Stamford, Conn. He says anything DEC can do to make the coupling between itself and Cray more secure is to DEC's advantage. D.J. Donald Bellomy says, "Digital gets what amounts to a free ride in a boom market."

**Product name:** Color Videotext 2000  
**Price:** \$7,900-\$11,900

**Specifications:** Microvax II chip set; 4M-byte memory; 15- or 19-in. monitor; four-plane, 16 simultaneous colors; 1,024-by-864-pixel resolution.

**Introduced:** June 16, 1987

**Ship date:** October-December 1987  
**Initial outlook:** First to break \$8,000 price barrier for color workstations; preemptive strike against low-end workstation vendors and PC makers such as IBM and Apple.

**Current status:** Price must go down in proportion to other products' drops.

**Product name:** IBM PC Network Integration Package

**Price:** \$1,195

**Specifications:** Includes Ethernet controller module, LK250 keyboard, MS-Windows, mouse, VT220 emulation.

**Introduced:** June 15, 1987

**Ship date:** June 15, 1987

**Initial outlook:** Central to DEC's suc-

cess in extending its proprietary architecture to IBM-dominated environments.

**Current status:** Shipping one quarter late following delays in testing and evaluation.

**Product name:** Vaxserver 100

**Price:** \$65,000

**Specifications:** Microvax II chip set; 16M-byte memory; 456M-byte hard disk drive.

**Introduced:** June 16, 1987

**Initial outlook:** Designed to be a server and/or boot node in a Local-Area Vaxcluster, Decnet or NFS/UXtrix environment.

**Current status:** Alongside the extension of Local Areas Vaxclusters to 28 nodes (from 14), the Vaxserver 100 bol-

sters the position of the Vaxstations.

## JULY 1987

**Product name:** VAX LISP Version 2.2

**Price:** \$2,400\*

**Specifications:** Enhanced version of VAX LISP (Common LISP) offers 20% performance increase over Version 2.1; runs under VMS and Ultrix; allows users to integrate artificial intelligence techniques with existing systems.

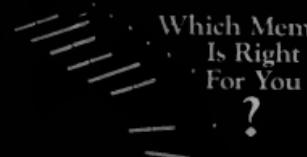
**Introduced:** July 9, 1987

**Ship date:** July 1987  
**Initial outlook:** Lowers entry cost for VAX-based AI applications. Requires no purchase of separate runtime licenses.

*Continued on page 75*

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## ► PRODUCTS ◄

# THE NEXT 12 MONTHS

BY MARTY GRUHN

**J**ust what will the future hold for DEC users, and what new and innovative products and directions will emerge in the coming year? Part of the answer lies in understanding that DEC's future products will be firmly anchored to the solutions the company provides today.

The net effect of DEC's forthcoming products will be a new generation of solutions that are carefully built on the foundation of existing investment and strategies. Thus, from one perspective, DEC's new products will look much like the company is pursuing business as usual. On the other hand, DEC does have a few twists up its sleeve to change the view of corporate and departmental computing.

#### Workstations

If DEC has had one significant Achilles' heel, it has been the inability to establish a presence at the desktop with DEC solutions. DEC's early foray into this market is now legendary. Products like the Rainbow and the Professional personal computer met with limited success, even in DEC accounts. The Vaxmate, later to market and originally plagued with technical difficulties, has also failed to provide the company with much-needed critical mass. Despite these setbacks, the company has renewed its commitment to capturing the desktop, and it has done so by using a variety of strategies.

Of the most interest is the recent decision to switch its focus from fighting the battle to replace the personal computer to focusing on capturing the millions of existing PC users. To achieve this coup, DEC will rely extensively on its PC All-in-1 product, enhancing this offering to provide more flexibility and PC integration as well as better price/performance.

VMS versions of the most popular PC packages should also begin to emerge during the next year, complete with innovative licensing strategies that use the power of technology to monitor the number of active users. Thus, DEC's strategies will rely on capturing PC users less at the desktop level and more at the work group and departmental levels.

In addition to attending to the PC integration issue, the Vaxstation 2000 will also emerge as a catalyst in 1988, as it migrates from the technical environment into a business-oriented workstation for commercial markets. In an era of confusion in which the PC's clout is, at least temporarily, on the wane, future price cuts will position the Vaxstation 2000 as a solution that

can provide significant added value.

The product's high-resolution display provides a platform for future compound-document and image products to be delivered by DEC, and its memory capacity offers the brute performance needed to run these next-generation applications. As important, the Vaxstation 2000 offers transparent compatibility with DEC's larger solutions and a future that will also include access to PC-oriented applications available on DEC-provided servers.

How DEC will provide transparency among its various workstations also illustrates the company's future desktop strategies. While slipped into the market with minimal fanfare, the Decwindow interface represents a foundation product for the future. Due for rollout in the next few years, this interface will assure that all

*IN ITS ONGOING battle with IBM, DEC is geared to match the maneuvers of its only significant competitive other by maintaining connectivity with in SNA environments and support for other IBM standards, such as LU6.2.*

workstations attached to a DEC environment will be provided with a consistent operating environment. Thus, Vaxmate, IBM Personal Computer and Vaxstation 2000 users will be able to see the same interface, regardless of their technology base.

#### VAXs

DEC's current claim to fame has been largely based on a single phenomenon — the popularity of its VAX product family. This year, the company initiated its new strategy to push the price/performance curve by announcing more powerful VAX models at successively lower prices.

At the low end, DEC even set new price points via its Microvax 2000. In the future, DEC will continue its strategy to push its technologies even further, to set new standards for competitors and to provide systems that will be attractive to a whole new range of users.

A peek into the future suggests that DEC's activities in its VAX line will move in two directions — up and down. First, the company will

continue to leverage the price/performance offered by its popular Microvax series.

The new Microvax 3000 series, the third generation of the Microvax, to be announced at Decworld, will offer 3-million instructions per second (MIPS) performance (the Microvax II is rated at just under 1 MIPS) as well as the benefit of CMOS technology. Based on a sophisticated new chip that is nearly three times as powerful as that of the Microvax II, the machine will expand the range of the Microvax product family well beyond that of IBM's existing 9370 Model 90, where DEC's current 8000 series does not always have a price advantage.

This move suggests that DEC's current 8000 series will soon be repositioned as dedicated IBM 4381- and 3090-class competitors — which should provide some headaches for DEC's current competitors — and an interesting new market challenge for the company.

DEC's forthcoming VMS 5.0 will also set the stage for a new era of VAXes that will deliver parallel processing to networked users in work groups, departments and data centers. These systems will also be the cornerstone for future support of high-performance DEC workstations, which may be a Microvax 3000 on the desk. Activities in the disk drive area also suggest that DEC's new high-end offerings will likely receive a substantial boost in performance via faster drives waiting in the wings.

While DEC pushes its product range up to the very high end, the company will also maintain its commitment to departmental and, more importantly, work group computing. DEC's future directions will be based on providing more cost-effective work group-oriented solutions built around local-area VAXclusters supporting multiple, often application-specific, small VAXes. Here, new Microvax solutions will be targeted at providing attractive entry-price points and feature maximum price/performance.

Just as important, high-growth environments will no longer require expensive upgrades to a larger VAX. Another small VAX will simply be added to expand the networked environment. Thus, DEC will transition its networking products from interconnection agents to an integral part of any DEC solution. To further support these new scenarios, DEC will focus on installation enhancements making its systems easier to use and install by first-time and/or non-technical end users, as well as enhanced network management tools supporting remote management by highly skilled staffs.

#### Local-area networks

If there is a single trend in DEC's strategy and products, it is the company's attention to repositioning its networks as an integral part of its

Gruhn is vice-president of The Sierra Group, a Tempe, Arizona-based consulting and research firm.

computing solutions. Having laid its technical foundation during the first half of the 1980s, future activities will be largely focused on fine-tuning and expanding these existing offerings.

At December, DEC will lay the groundwork for new products that will support wide-area networking requirements and position DEC as a provider of enterprise-oriented solutions. Its Systems Network Architecture (SNA), Decnet Phase V is expected to support high-speed high-level data link control circuits to position Decnet as a backbone network for multivendor environments. The firm will also boost its support of industry standards and — despite the occasional fax pas in the press — will maintain a high-profile commitment to providing a reasonably open networking environment.

DEC is well aware that today's networking solutions are unlikely to support future applications requirements. To address high-volume applications such as image and voice, DEC will soon announce support for fiber-optic networking media, a technology that will prove equally critical to supporting the company's future parallel processing environments.

In the short term, Decnet supports unshielded twisted-pair wire at speeds of up to 10M bps/sec. And DEC will also clarify its plans for Integrated Services Digital Network, CCITT X.21 and IBM's NetBIOS protocols.

Finally, in its ongoing battle with IBM, DEC is geared to match the maneuverers of its only significant competitor other by maintaining connectivity within SNA environments and support for other IBM standards, such as LU6.2.

#### Software

Since DEC believes software is the users' most significant investment, the company is committed to becoming a premier supplier of business-specific solutions. A look at the company's current pricing strategies provides ample illustration of the company's belief in software as a watershed issue. The five-year cost of any VAX configured for the office is at least 50% software and 50% hardware. As such, users who opt for DEC solutions today are already making a substantial investment in DEC's tools of the future.

As with many of its technologies, DEC's future software scenarios are largely based on products currently available, albeit not necessarily well integrated. Key products include the Decwindows interface, whose charter is to bring DEC's existing and future software offerings together sometime in the future.

Also critical will be new versions of DEC's All-In-1, which will evolve to be

more than just an office solution; All-In-1 with a new Decwindows interface and compound-document support is the integration agent for business-specific software solutions of the future.

Current activities also illustrate that DEC will continue and, in fact, accelerate its announcement of third-party developed software aimed at specific industries and markets. Further, it will begin to fold these solutions under its Decwindows and All-In-1 environments as they become universally available.

If there is a common theme to DEC's future products, it is that these systems will offer more of the same as the past two years' announcements — but in new and varying configurations.

From a technology perspective, DEC's

focus is clearly on providing successively more powerful systems across its entire product line — and at significantly lower prices. While there may be short-term price increases as DEC pushes its current advantage, the long-term strategy is for lower cost systems. DEC's moves may be accelerated by IBM, which will make price a significant issue in 1988.

This means that DEC solutions are likely to be more readily available to a new generation of users. At the same time, via its future interface and software products, DEC will provide the integration of all business solutions — a demand already expressed by a sea of technology-weary endusers.

If there is a critical area for DEC in the future, it appears to be at the workstation

level. Although DEC's strategies here are fairly straightforward, what remains to be seen is whether the offerings will actually be accepted by users who are highly PC-oriented.

Price will certainly emerge as a critical factor. DEC's workstations have never been accused of being "bargain basement." And new high-performance additions are likely to again push the high-price curve.

Also critical will be DEC's support of PC software standards. Users have resoundingly demonstrated they are not interested in migrating to new technologies without dragging along their favorite solutions. DEC's greatest challenge for the future may lie less in its VAXes than in its ability to capture the desktop.

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— Phil Thomas

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Phil Thomas is President of Thomas Business Systems of Boca Raton, Florida. Thomas Business Systems buys, sells and leases new and used IBM, DEC and Data General equipment. They've been doing so for 10 years.

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## GOING OFF TO VAX CAMP?

Current and potential VAX users will be targeted in three days of in-depth tutorials and conference sessions at New York's Roosevelt Hotel from Oct. 26-28.

The VAX Business User Forum will cover topics such as "Designing Networks with Digital," "Digital in the Office" and "Introduction to VAX-based Data Base Systems."

Sponsors of the event are the IDG Conference Management Group, located in Framingham, Mass., and *Digital News*, located in Boston.

## BEYOND VAX

FROM PAGE 80

exception of the IBM 360, which had an inherent 23-bit address to get it to the 1990s, history also tells us that companies try to evolve their architectures for too long. They end up with 100% of their user base market but a declining share of the entire market. Eventually, even that market declines as users desert the obsolete machines.

A major computer technology generation lasts about a decade. I believe it is hard to design an optimum architecture that lasts much longer. While VAX may top out, it should be a fine base for evolution.

**What will the topping out of the VAX mean to the thousands of sites committed to DEC's single-architecture prescription?**

Again, let me rely on history. VAX was a major new hardware architectural evolution from the PDP-11, yet it preserved programming interfaces, languages and data bases. The same concept could be reapplied even if DEC changes the underlying

process as to what it is? I hope so, because it is essential. The key is to identify the crucial limits of VAX and to eliminate them. Again, it might require tools similar to those we used to create VAX in the first place. The only tool I would add to that independence of the instruction Set Processor hardware architecture just as VAX added new dimensions of comparison, a new architecture also must add those dimensions of comparison.

I would hope a new plan would address parallelism of all forms and performance for the scientific and engineering community, including the ability to collaborate effectively via the computer using high-speed interconnects. It would handle large scientific and engineering data bases.

A radical view of data integrity and data bases is also needed. Improvements in the cost of ownership and availability dimensions are quite possible. In addition, DEC could address the mass market for users who want a great computing environment but don't want to become system programmers or administrators. This would rule out any compatibility with MS-DOS and

structures per second) could be put in a small box. This approach would provide at least one two-nos "one-to-one" product. Moreover, it gets the price into the \$10,000 per MIPS range vs. the \$100,000 to \$300,000 range typical of the large mainframes. These ridiculous prices aren't sustainable except for large mainframes, where users are locked into buying code modules — and someday the users may get smart.

**What markets would such a machine address?**

DEC seems enamored with the commercial and transaction processing markets. Multis are the best computers for these markets because the applications only demand total MIPS for a large collection of jobs. The system has advantages for a general, interactive job stream such as program development as demonstrated by the multi-suppliers. The microprocessor inherently provides the best cost/performance by almost two orders of magnitude — we simply look at the MIPS per chip.

By gleaning them and matching them to a memory, one can get the most power in a single system at a small fraction of the cost of an engineer-coded logic-based computer with a few expensive processors. It also offers, inherently, much better availability characteristics.

**Would such a system address all of your concerns about inadequate scientific and engineering performance?**

Not entirely, but two multis could replace an entire product line and provide 100-MIPS-level performance and substantially better price/performance for the user than the current "model" approach.

In addition, consistently competitive compute servers are needed, which would run technical work in the [Cray Research, Inc.] Cray-1 speed range. In the long run, a multi might do the job, but for now, the vector multiprocessor is the main line ... in effect, another Crayette.

**What is the largest unprocessor VAX that can be built?**

The speed of a uniprocessor, such as the VAX or a 370, is correlated with the clock speed.

A high-end multis with a 40- to 60-MHz clock could probably be built and still be in the mini price range with a power of two to three times the current models.

Note that the current (IBM) 3090 uses about a 60-MHz clock, and the Cray-1 VZ clock is almost twice as fast, although both have roughly the same scalar speed. Clock speed isn't always a good indicator.

**Can DEC engineers develop a totally new architecture for the '90s and beyond that will play on Decnet and run software from existing machines?**

Companies with different underlying hardware architectures provide existing proof of VMS user-level compatibility. Certainly DEC should be able to do this, too.

**Are the engineers at work on such a scheme now, and if so, what is the best**

hardware architecture. The program and data base interface must be preserved — in effect, it should be transparent if users adhere to certain VAX and VMS standards.

It's probably important to define VAX, or VMS, compatibility and whether a new, but hardware architecture could be used to implement this environment — that is, without object compatibility. The problem is much easier than with the PDP-11 or with the 370 because VMS is a single interface which subsumes the network but includes the command language, DCL, and various languages. Fortunately, nearly all programs are written in a high-level language today and would be compatible.

**Can DEC engineers develop a totally new architecture for the '90s and beyond that will play on Decnet and run software from existing machines?**

Companies with different underlying hardware architectures provide existing proof of VMS user-level compatibility. Certainly DEC should be able to do this, too.

**Are the engineers at work on such a scheme now, and if so, what is the best**

**newly on what DEC might have done in the four years since you left?**

**Did we provide our own reference price first?**

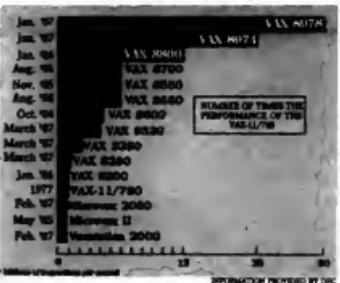
I've been involved with a bunch of new computers, three of which are on the market, plus several start-ups that are crest-

VAX gave DEC a monopoly in much the same way that the 360 gave IBM a monopoly in the '70s that only lasted a decade. DEC should compete its products with the best small companies, not old-line suppliers.

**2. Thinking VAX can do it all**

### THE VAX FAMILY

*In the past year, DEC has introduced seven VAXs (performance figures are based on the VAX-11/780 as the company's main of measure, DEC does not use MIPS.)*



INFORMATION PROVIDED BY DEC CW-MAT

**"RADICALLY new applications should be sought that build on the environment and do things no other environment can support."**

ing new markets. All of the computers provide more capabilities than VAXs, and the engineering has been done in a small fraction of the time and budget of DEC product designs. Aside from the evolutionary extensions and products, I would have probably urged greater innovation and carried on enough experiments to have selected a VAX II architecture by 1986, with benchmarking.

**"I would have probably urged for greater innovation and carried on enough experiments to have selected a VAX II architecture by 1986."**

marking now and delivery in '88 — a decade after the 780.

**Would VAX II be reduced instruction set computing, or RISC, based?**

**What other big issues face DEC in the future?**

1. Thinking VAX is the end, not simply the best thing around today, is an enormous hurdle. While nothing is yet in the marketplace to challenge it, several new systems do and will. This thinking leads to arrogance.

by itself ... or by relying on the old IBM applications being converted to VAX just because VAX is better than the 360. Radically new applications should be sought that build on the environment and do things no other environment can support. Also, understanding the limits that come from new uses is critical to VAX II.

3. Being examined by the commercial interests and not attending to the scientific and engineering base, especially in the universities. The commercial market tolerates high prices for higher performance, but they are unique. The technical marketplace is far more demanding on products.

4. Poor presence on the desk, and even picking MS-DOS and [Intel Corp.'s] 80386 or 80486 to implement. I don't see what another clone brings to the marketplace — certainly not profitability. Service revenue can be obtained simply by going into that segment of the service business. Integration with the Apple Mac is also important.

5. Responsive, efficient and creative marketing with respect to being to be innovative. While DEC is probably no worse than the average, it's not adequate to compete in the '90s when the Japanese and others arrive.

That's a big set of worries. Are you optimistic? Certainly, they are making lots of money, have lots of cash and exceptional people. All they need is a challenge. The plethora of new start-ups certainly provides that.



► EXIT ◀

# BEYOND VAX: A CONVERSATION WITH GORDON BELL

**G**ordon Bell, 53, is a legendary figure around the halls of DEC, even though he last worked there four years ago. As head of DEC's engineering effort in the 1970s, Bell formulated the company's VAX strategy and shepherded its introduction and implementation. That strategy remains the foundation of DEC's product line and marketing efforts. The company insists this strategy is flexible and durable enough to take DEC into the next decade and beyond.

*Computerworld Extra* asked Bell, now assistant director for the Computer and Information Science and Engineering (CISE) Directorate at the National Science Foundation in Washington, D.C., to consider the future of VAX.

**What is the origin and essence of VAX?** VAX came from a tiny task force I led in April 1975. The idea was to create a new computer family to be "culturally compatible" with the successful PDP-11. Its principal design goals were to be compatible with key operating systems and languages; to have a much larger address space than any existing computer; to be efficient at implementing high-level languages, including Fortran, C [for Unix] and Cobol; to be implementable over a wide range of sizes; and simply to be the highest performance computer in its class when first implemented.

In December 1978, after the VAX-11/780 had achieved immediate success, the company adopted the VAX strategy to provide a VAX homogeneous computing environment for a range of interconnected computers.

A user could compute in any of three styles from a cluster of large machines behaving as a single system, distributed traditional minicomputers and distributed clusters of workstations. The strategy also specified compatibility with other DEC computers and intercommunication with other standards and products.

**Why has VAX been so successful?** The concept was incredibly simple, and hence everyone [customers and the company] could understand and support it. Also, the three-level computer hierarchy was right . . . even IBM discovered and endorsed it by the early 1980s. VAX provided the best, and only, totally compatible, single-interconnection environment. This required a range of computers, from VAX on a chip to the highest performance computers that could be built.

VAX gave DEC a product monopoly, since no other manufacturer has anything like this capa-

bility. It specifically exploited the fact that most manufacturers had a menagerie of product lines designed to segment the user base, fill product size and application gaps or help the manufacturer's or organization's.

Recently, IBM started to provide similar capabilities by having [IBM] 370-compatible minis and a plug-in card for a PC. But this is not enough because they have several operating systems, a worse problem than having multiple hardware architectures.

Also, given the complexity of the IBM architecture, including the I/O and operating systems, it's probably hard to make the architecture serve the wide range of users at this point in its life.

#### Did things happen pretty much according to your VAX strategy?

Largely yes, although it wasn't as trivial or simple to do as one would think. Ethernet, an essential component, was questioned by various internal DEC committees, even after the whole system was working. Having adopted a VAX strategy in 1978, the company in 1980 decided had to enter the PC market with a trilogy of non-VAX PCs, which only loosely fit the strategy. VAX was too large to build as a workstation until 1982 to '84.

At the same time, the high-end implementation of VAX — Venus [the 8600] — was more than two years late as engineers hit the complexity wall and essentially forgot the recipe of how to design computers. These two events accounted for DEC's poor financial performance in the early '80s.

#### Do you see anything that could challenge the VAX strategy yet?

No. In 1978, I thought the only possible threat was Unix, because it provides compatibility at a higher level, somewhat like VAX. I imagined that innovative or small companies would develop Unix systems for interconnect computing environments by the mid-'80s. Now I'll push that back three to five years.

A critical hole is in the PC space where

MICHAEL MCNAMEE

Microsoft Corp.'s MS-DOS is similar to Unix, but isn't compatible. Unix needs to evolve in range, human interface and applications. Having AT&T control it doesn't help — it has to truly be a public standard. The government support of Unix [Postix] still could have an impact.

Also, I don't see a single large computer company coming up with anything like VAX because of the cost and commitments of preserving their code museums for running old programs.

#### How far can DEC go with the VAX architecture?

I don't believe all the capabilities in the architecture, as conceived by its addressing, have been exploited yet. DEC still has uniqueness.

Critics point out that even if clustered, the architecture will sooner or later top out. What do you think? Here, history is a good guide. Every architecture has sooner or later either run into a limit or been inappropriate to the technology. With the

*Continued on page 78*

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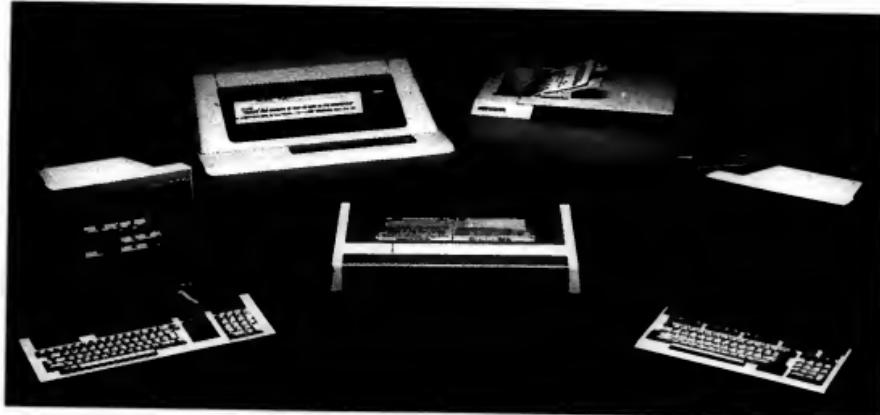
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